H. N. KUNZRU
CHAIRMAN
TEAM ON RAILWAYS

GOVERNMENT OF INDIA
ADMINISTRATIVE REFORMS COMMISSION
NEW DELHI

November 26, 1968

Dear Shri Hanumanthaiya,

I have much pleasure in forwarding the Report of the Study Team on Railways, which was constituted by the Administrative Reforms Commission vide its Notification dated 21-9-1967.

2. In the terms of reference of the Study Team, no time limit for the submission of the Report was given but the late Shri H.C. Mathur, Member, Administrative Reforms Commission, gave us the impression that we should complete our report by the end of May, 1968. The wide terms of reference, however, necessitated the collection of voluminous data and a great deal of information which had to be carefully scrutinized. This naturally required time. It is, therefore, only now that we are able to present our report to the Administrative Reforms Commission.

With kind regards,

Yours sincerely,

(H.N. Kunzru)

Shri K. Hanumanthaiya, M.P.,
Chairman,
Administrative Reforms Commission,
Sardar Patel Bhavan, Parl. Street,
New Delhi-1.

ADMINISTRATIVE REFORMS COMMISSION

STUDY TEAM ON RAILWAYS

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Shri G.Pande	Member
Shri K.B.Mathur	Member
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CHAPTER - I

INTRODUCTION

1.01 The Study Team on Railways was constituted under the Administrative Reforms Commission's Notification dated 21-9-1967, reproduced below:-

> "The Administrative Reforms Commission hereby appoints the following persons to constitute the Study Team on Railways —

1.	Dr. H.N. Kunzru, Sapru House, New Delhi.	.. Chairman
2.	Shri P.C. Bhattacharya, 52-C, Ballygunj, Circular Road, Calcutta-19.	.. Member
3.	Shri G. Pande, 7 - Park Lane, Lucknow.	.. Member
4.	Shri K.B. Mathur, C-83, New Delhi South Extension, Part - II, New Delhi.	.. Member
5.	Shri P.L. Tandon, Hindustan Lever Ltd., Lever House, 165/166, Backbay Reclamation, Bombay-1.	.. Member
6.	Shri P.C. Mathew, 48, Lodi Estate, New Delhi.	.. Member- Secretary

> The Study Team will examine the administrative and financial arrangements for the working of the Indian Railways,

> locate the principal problem areas, and make recommendations with a view to building an administratively efficient and financially sound system that would provide adequate and economical transport to the country. The Study Team will submit its report as early as possible."

Shri P.C. Mathew, on appointment as General Manager, North Eastern Railway, was replaced by Shri G.P. Warrier, Additional Member (Works), Railway Board on 15-12-1967.

1.02 The wide terms of reference have necessitated a careful examination of various organizational aspects, operational efficiency, financial structure, personnel administration, marketing development, customer satisfaction and certain other facets of railway working. In this task, we have taken into account the reports of the Indian Railway Enquiry Committee, 1947, the Railway Accidents Committee, 1962, and the World Bank Coal Study Team, 1965.

1.03 Of all the public undertakings in this country, railways have the biggest impact on its general economic development; equally so, does the rate of growth in the various sectors of industry and agriculture affect the financial viability and economic soundness of the railway system. The Railways have a good record. They have stood the test of two emergencies in the recent past and have been contributing substantial sums to the General Exchequer. The rate of growth on the Railways since the advent of planning has been phenomenal. During this period of 17 years, a capital investment of Rs.2143.9 crores was made and their capital at charge as on 31-3-1968 stood at Rs.2991.6 crores. The contribution to the General Exchequer in the form of dividends during these 17 years was Rs.1163.33 crores. In addition to this, the Railways contributed to the Revenue Reserve Fund and Development Fund an amount aggregating to about Rs. 309 crores. In the last two years of economic recession, the Railways had, however, to withdraw funds from their Revenue Reserve Fund in order to meet their dividend obligations fully.

1.04 The Indian railway system is the second largest among the nationalised railways of the world and, with its annual revenue of about Rs.769 crores, it is the largest industry in the country employing about 1.36 million people. About 10,000 trains are run daily, carrying 2,191 million passengers and about 200 million tonnes of goods in a year. The Railways, therefore, play a predominant part in the transport of passengers and goods in the country. The soundness and continued financial viability of such an organization is naturally of the utmost importance to the economy of our country.

1.05 The Study Team held its first sitting on 16-10-1967, when the late Shri H.C. Mathur, Member, Administrative Reforms Commission, gave the background of the appointment of the Study Team. The general line of action was then planned. The Team thereafter held discussions with the General Managers and principal officers of the 9 zonal railways and the 3 production units. The working of the Research, Designs & Standards Organization at Lucknow and the Railway Staff College at Baroda was also gone into in some detail. Some of the important marshalling yards were visited and the problems of these major transportation centres were looked into. Since port development plans and the capacity of port terminals have a direct effect on railway operation, some of the major ports were also visited. The development and manufacture of sophisticated signalling items and tele-communication items are so vital for the modernization of operation and safety arrangements that the Team visited the Indian Telephone Industries at Bangalore and some other principal manufacturing units. Details of the itinerary of the Study Team on Railways are shown in Annexure I/1.

1.06 The views of the National Federation of Indian Railwaymen and the All-India Railwaymen's Federation were sought and detailed discussions were held with them.

The Study Team received deputations and memoranda from various bodies like the Officers' Associations, the Chambers of Commerce and Industry and State Governments.

1.07 In making our recommendations our prime object has been to see that the railways function as a sound industrial-cum-commercial undertaking, producing and selling transport to the customers' satisfaction and promoting the economic development of the country. A rational and healthy growth of the railways on sound business principles is therefore vital to the country's economy.

1.08 The Railways are a very complex organization, with a large number of technical and non-technical departments. In the limited time at our disposal, it was not practicable for the Team to look into all the aspects of railway working in great detail. Yet an earnest endeavour has been made, using all the materials available, to cover fairly comprehensively the task assigned to the Study Team by the Administrative Reforms Commission. While the conclusions and recommendations contained in this report may not be all-embracing, the Team hopes that the implementation of these recommendations will result in the increased efficiency and greater financial soundness of the Indian Railways.

1.09 ACKNOWLEDGEMENTS: It is a matter of great regret and sorrow to us that Shri H.C. Mathur, who took great interest in the work of the Study Team on Railways, expired during the tenure of the Study Team. We place on record our high appreciation of the encouragement, the Study Team received from him.

We are thankful to the General Managers of Railways and their officers for the courtesy they extended to us and for expressing their views freely and frankly, which enabled us to appreciate fully the real nature of the problems concerning the railways.

We also thank the National Federation of Indian Railwaymen and the All-India Railwaymen's Federation for meeting us and expressing their views. We must also acknowledge the courtesy that has been extended to us and the information furnished to us by the various Port Authorities, the Indian Telephone Industries and the Durgapur Steel Plant authorities.

We are thankful to the Comptroller and Auditor General of India and the Secretary, Ministry of Works, Housing & Supply for deputing their officers for giving us the benefit of their views.

We also wish to express our thanks to the Chairman and Members of the Railway Board for the courtesies shown, the facilities extended and the information placed at our disposal.

We are also thankful to the Minister for Railways for giving us an opportunity to meet and discuss matters with him.

CHAPTER - II

RAILWAY BOARD

2.01 Railways are the largest public sector undertaking in the country, having an investment of Rs.2,991.6 crores upto 1967-68. It is, therefore, a matter of importance that their administrative machinery should be so organised as to achieve the objectives of the railway policy, which are to serve the needs of a fast developing economy and a growing population with its increasing concentration in old and new urban centres and meet the challenge posed by the expansion of motor transport for the carriage of both passengers and goods. In doing so, full advantage should be taken of the new tools and techniques for management, like improved communications, computers, work studies and operational research. It is equally important that the managerial personnel running the administrative machinery should be technically competent, equipped with qualities of leadership, properly motivated and fully satisfied with their position.

2.02 Before giving an account of the results of our scrutiny of the working of the Railway Board and our suggestions concerning its reorganisation, it will be worth-while giving the background of the gradual development of the top-most railway authority, as it existed at the beginning of the present century to the present pattern of the Railway Board.

2.03 Upto the beginning of the present century, Railway matters were dealt with in a branch of the Public Works Department. It was found that the secretariat methods were hampering the work of the Railway branch, which was highly technical in nature and re-organisation proposals were, therefore, framed with the help of an expert from the U.K. As a result, in 1905, a Railway Board was framed with railway experts as its members. In matters requiring the sanction of the Government, the Board had to report to the Commerce Ministry. This arrangement also did not prove sufficiently expeditious in the disposal of business and, therefore, in 1908 the Railway Board was converted into an autonomous department and full powers were vested in the Chairman, who was designated as the President, with powers to over rule his colleagues. He was also given direct access to the Member of the Executive Council concerned and to the Governor General. In 1914, the principle followed so far, of choosing the President and all the Members from the Railways was relaxed, as it was felt that the importance of the financial and commercial considerations made it desirable that an outsider with commercial and financial experience may be appointed. By 1920, this experiment of an outsider having proved unsatisfactory, it was decided that the old policy of having Members of the Board with Railway experience was the better solution.

2.04 The Acworth Committee (1921-22) recommended that the Board be reorganised and the President be designated as the Chief Commissioner, the Adviser as the Financial Commissioner, and regional Commissioners appointed and Madras, in lieu of the Members, Board in the management of the railways. As of the Committee's above recommendation, the Financial Adviser's post was replaced in 1924 by that of the Financial Commissioner, who exercised all the powers of the Government of India in matters of finance. The President of the Board was also re-designated as Chief Commissioner, who was made an ex-officio Secretary to the Government India and was given the sole responsibility advising the Government on matters of Railway and given powers to overrule his colleagues in the Railway Board. The recommendation to replace the Members by three regional Commissioners was, however, not accepted and the Members continued to be designated as such and functioned as in the past.

2.05 In 1950, the post of Chief Commissioner was held in abeyance. A functional Member was to be the Chairman to co-ordinate the work without the power to overrule his colleagues and the Board was to advise the Minister as a corporate body. The Financial Commissioner retained his original position.

2.06 In 1954, the Chairman of the Railway Board was again accorded the same powers as the Chief Commissioner of overruling his colleagues and he assisted by the Members, was also vested sole responsibility of advising the Government technical policy.

2.07 The distinctive feature of the management of the Indian Railways, as it is functioning now, is that there is a central controlling authority, co-ordinating the functions of the various zonal railways and ensuring planned development of the railway system, taking into account the actual needs in the various parts of the country. The rail function as a department of the Government in the Ministry of Railways and the Railway Board functions as its Secretariat and also as the top-executive and policy making body. The structure and constitution of the Railways have been evolved over a period of years, based on the experience gained from time to time. The Railways, unlike any other public sector undertaking, have their operations spread over the length and breadth of the country, affecting practically every citizen and having an impact on all other sectors of the economy. They serve the public through more than 7,000 stations and run more than 3,000 passenger trains a day, carrying about 6 million passengers. Being a public utility concern, with such a wide impact on the life of the people, Railway matters naturally evoke considerable interest both in Parliament and outside.

2.08 The present arrangement by which the top executive body, namely the Railway Board, consisting of experienced railway men, who have worked in the field in various capacities and have gained intimate and expert knowledge of the complex working of the Railway system, functions as the Secretariat to the Minister has stood the test of time. Both for co-ordination with other Ministries, and for Parliamentary work, this arrangement makes available to the Minister a Secretariat with first-hand knowledge of railway working, which gives advice directly. Any other arrangement would have necessitated an intermediate tier which may be lacking in the necessary expertise to grasp the complicated problems. This co-ordination becomes particularly vital, considering the part the Railways have to play in connection with the national security, during emergencies and during certain emergent movements as during last year's food movements to Bihar. The soundness of the structure and the important part it plays in crises were evident during the Emergencies in 1962 and 1965. The Railways, in future too, have to continue functioning in the same and greater strain, considering the need for overall railway development to cater to the rapid industrialisation of the country. Developmental plans have to be coordinated with the Planning Commission and with other Ministries of the Central and State Governments, and for all this, the present structure where the Railway Board combines both the executive and Secretariat functions, is the best arrangement possible. We are of the opinion that in the interest of Railways the present arrangements should not be changed.

2.09 The Railway Board consists of a Chairman and four Members, all of whom are given the rank of ex-officio Secretaries to the Government of India. The Chairman is designated as the Principal Secretary. Each of them, including the Chairman, is incharge of a portfolio. The existing distribution is as follows:-

Chairman	..	General Administration, Transportation, Commercial, Security, Public Relations and Planning.
Financial Commissioner	...	Finance, Budget, Efficiency Bureau, Statistics and Economic Cell.

...Member

Member Engineering	.... Civil Engineering, Signalling and Telecommunications, Research, Designs & Standards Organisation.
Member Mechanical	.... Mechanical and Electrical Engineering and Stores.
Member Staff	.... Personnel matters, recruitment of gazetted officers and training and vigilance.

They are assisted by 5 Additional Members who are in the grade of zonal General Managers. These posts were created to relieve the Members of their heavy work by having a clear cut demarcation of work and responsibilities between Members and the Additional Members so that the latter may function more or less independently. While the Members are not debarred from examining any subject entrusted to the Additional Member, or from utilising him in any other way, it was contemplated that this would not be done. Any overlap of functions, which may have crept in, should be eliminated so that, in their respective spheres, the Additional Members function as though they had the powers of a Member.

2.10 We have given considerable thought to the constitution of the Railway Board and are of the definite opinion that the Chairman should be relieved of his functional responsibility He should coordinate the activities of the Board, ensure team work and think over the larger problems of operation, planning, economy and development. It is, therefore, necessary that an additional post of a Member should be sanctioned for enabling this to be done. The Chairman should be a railway man with a comprehensive knowledge and experience of railway working. He should be one who has distinguished himself by sound judgement and capacity for leadership. It is not necessary that he should be the senior-most Member or even a Member of the Railway Board at the time of his appointment. An outstanding General Manager of a Railway, possessing these qualities, should be equally eligible for this appointment. This appointment should be the result of a positive and careful act of selection and the person selected should be the best Railway officer available. The Chairman and Members of the Railway Board are the personal selections of the Minister of Railways. We are of the opinion that the Chairman should be consulted by the Minister when he selects the Members of the Board. We also wish to add that there need not be any embargo on the selection of a railway officer other than a General Manager for the post of a Member, Railway Board, if he is exceptionally brilliant, and his name is already included in the panel for General Managers.

2.11 Normally every Member should function freely in his own sphere, except where a question impinges on the functions of another Member when concurrence of the latter will be required before orders are issued. However, while holding discussions with other Ministries or Labour or other outside organizations, the Chairman should be consulted on important matters on which decisions have to be taken. Important matters of policy, major decisions regarding development, investment, budgetary allocation, etc., should be jointly discussed in the Board meeting. The Chairman should continue to have the powers to over-rule the Members of the Board. In other words, the Chairman should continue to exercise the same powers as the Chief Commissioner of Railways used to do before 1951, in accordance with the decision of the Railway Minister, late Shri Lal Bahadur Shastri, in 1955. The Chairman is responsible to advise the Railway Minister on all important policy matters. It is also his responsibility to keep the Minister informed of all important developments. The Financial Commissioner has, at present, the power to veto any new item of expenditure. In our opinion differences between the Financial Commissioner and other Members on financial matters should be discussed at the Board meeting and resolved there. If, however, the Financial Commissioner is unable to agree to the consensus, he should retain the existing right of placing the matter before the Railway Minister and the Finance Minister.

2.12 We do not think that the designation 'Financial Commissioner' is appropriate. It came about as a result of the recommendations of the Acworth Committee when the head of the Railways was designated as Chief Commissioner and the other Members were to be designated as Commissioners. In the changed context, the designation should be altered to Member, Finance, in line with that of the other Members.

2.13 We have also considered the matter as to whether the Members of the Railway, including the Financial Commissioner, should continue to have the rank of ex-officio Secretaries to the Government of India. Since each Member functions independently in his own field and has, therefore, to deal and discuss with the other Secretaries of the Government as also Parliamentary Committees, like the Estimates Committee and the Public Accounts Committee, it is necessary that they should hold this rank. In fact, we recommend that to conform to this pattern which obtains in other Ministries, the Additional Members should be given the status of ex-officio Additional Secretaries and Secretary, Railway Board and Directors should be given the status of ex-officio Joint Secretaries to the

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to the Government of India.

2.14 In regard to the number of Additional Members, we do not suggest any change, but would expect them to function independently so that the Members may get the necessary relief and have ample time to think, instead of being over-loaded with file work.

2.15 The present tenure of the Chairman and Members of the Railway Board is 5 years but in practice no Chairman has held this office for more than three years. We have stressed in Chapter IV that selection to the higher posts like the Divisional Superintendents and Heads of Departments must be based on rigid tests of merit and that outstanding and promising officers in their early forties should be selected to such key positions so that they can step up to the higher levels of the hierarchy at a fairly young ago. Only by adopting such a step, can it be ensured that the Chairman and Members can be brought to the Board early enough to avoid the need for granting extension to complete the tenure of 5 years. If need be, extension of service should be given to complete the tenure but there should be no renewal of tenure. The tenure of Directors should be 4 years and those of Joint Directors, should be limited to 3 years.

2.16 The Railway Board should function as the top policy making body and should co-ordinate the developmental programme on Railways, in consultation with the Planning Commission and other Ministries. In this respect, the Railways should retain their distinct identity, and, while working as a Department of the Government, the policies, practices and procedures in other Departments of the Government, which may not quite suit a commercial-cum-industrial undertaking like the Railway, should not be allowed to infilterate into the Railways' working. While Railways will have to act within the framework of the Constitution and the fundamental labour laws, enacted from time to time, Railways should not be fettered with modifications or circulars issued by other Ministries from time to time. In a concern where 13.5 lakhs of employees are working and where punctuality and customer satisfaction are of paramount importance, a disciplined staff, owing loyalty to the Administration is an absolute necessity and this can be ensured only if the Railway Ministry has the freedom for regulating the conditions of service and in affording incentives to its staff.

2.17 In respect of the top executives, it is extremely necessary that they should have sufficient time to think and plan for the future and to attend to the major problems of railway working. The organization is basically sound, but we cannot help observing that the authorities at the higher levels have become too much engrossed in details of minor importance, with the result that they do not get enough time to attend to major issues. Much of it is due to questions raised by Members of Parliament, mostly on personal matters, and the attention that has now to be given to influential parties. Even seat reservations in trains, arrangements for retiring rooms for parties, minor contract affairs etc. are being attended to by the Railway Board, not in isolated cases but almost regularly. We are also told that the Ministers in the Railway Ministry receive daily a large number of letters from the Members of Parliament. The bulk of these representations are in respect of individual cases involving transfers, promotion, seniority, etc. or punishments given to them; fifteen per cent of these representations deal with the provision of passenger amenities like platforms, foot over-bridges, level crossings and in a few cases construction of Only an insignificant number relates to some issues. All these have to be dealt with at highest level in the Railway Board, the zonal Railways and the Divisions. This results in the decisions taken on minor matters at lower level being questioned and consequently the authorities at the lower levels lose initiative and look for guidance from above. A lack of confidence entail delay in taking decisions and shirking of responsibility. In our contacts at the various levels of Railway administration, we found an unmistakable evidence of the morale being at a low ebb and a general feeling of frustration.

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2.18 In this state of affairs, it can well be appreciated that an extensive organisation like the railways cannot be expected to function with efficiency and effectiveness. It is significant that this feature had also been commented upon by the Railway Accidents Committee. Relevant extracts from their observations are reproduced below:-

> "Para 113 xxx xxx xxx
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> We are informed by competent observers that at present the morale of the officers is at a low ebb. Although sufficient powers have been delegated at appropriate levels, the officers are reluctant to exercise their discretion for fear of not being supported by the higher authorities, or their decisions rubbing someone who can enlist the support of some influential outsider. The Railway Unions add to this reluctance, because with their easy approach to higher echelons of authority, they may often succeed in getting the orders revised. Some executive officers prefer to let things drift instead of taking positive action to control a situation. The result is a wide-spread lack of action and the consequent indiscipline amongst the staff resulting from the impunity with which they can thus be permitted to indulge in wrong actions. Such mental hesitation and

indecision amongst officers, whether justified or not, have a corroding influence on the efficiency of an administrative machinery. It is essential that conditions should be created and fostered under which an officer can function with confidence in himself without being unnecessarily worried by the fear of getting into trouble for a bonafide

A competent and experienced officer who occupied some of the highest positions on railways offered the following analysis of the existing situation: 'This state of affairs is result of interference with the exercise proper authority in all grades. The lead in this matter appears to be taken by members of the highest soverign authority of the land the Parliament. It would appear that interference by Members of Parliament in punishments, transfers and promotions of staff is so wide-spread that the railway authorities feel completely frustrated in maintaining any sort of discipline and the less tough amongst them have up struggle as hopeless. It may be that it is only a small percentage of the staff who are able to influence some Member of Parliament and get him to sponsor his case successfully, but each such case breeds increasing contempt of authority and results in the utter destruction of

scipline leading to indifferent performance of duties and consequent accidents. Several senior and responsible officers of the railways, in their evidence before us, have corroborated the broad features of the situation as given in this outspoken anal

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"The witness, whose evidence we quoted earlier, was also of the view that 'the desire to interfere without a sufficient reason in the action of lower formations has permeated the whole structure. More often than not, in the hierarchy itself, such action originates at the suggestion of some superior or outside authority. Much of the time and energy of the staff is spent in infructuous work like defending their action in a trivial-or

case of disciplinary action, answering ues ons which should never have been asked concerning such matters, adjusting themselves mentally palpably wrong

> exercise of authority and interference with their legitimate work. These lead to neglect of more important and worthwhile work and ultimately to inefficiency."

2.19 The position instead of improving seems to have worsened. Political interference in day-to-day working of the railways is having a serious impact on the workload at all levels of management and is undermining discipline which is of paramount importance for efficiency and safety. It takes continuous effort and a long time for discipline to be built up but it can be disrupted in very little time. We realise that the environment in general have also been unfavourable. While there may be no direct link between the growing indiscipline and the recent spate of accidents attributable to human failure, the fact remains that the reflexes and impulses of a human mind are delicately poised and unless they remain constantly attuned to a of disciplined conduct, they are apt to fail at the crucial moment. We, therefore, consider it our duty to sound a note of warning that unless the highest soverign body in the country namely Parliament, decides to observe a self denying ordinance in respect of internal matters, particularly those concerning routine matters, such as staff promotions, transfers,

.... discipline

discipline, etc. and the Members of Parliament confine themselves mainly to broad issues of policy emanating from the Ministry, whatever the improvements we may suggest, they are not likely to prove fruitful. If this higher authority lends its positive support to the efforts to tighten discipline, it would indeed be of immense value. In the advanced countries with nationalised railways, such conventions are well established. Sometime back a Minister of Transport in Japan was castigated by the Press and public opinion, because he ordered that an express should stop at a station serving his constituency and he had ultimately to resign. Public opinion must be built up and conventions established avoid interference in the day-to-day of the railways.

2.20 In this context we commend for consideration the stoppage of the practice of asking every General Manager to be present at the meetings of the Informal Consultative Committee of the Parliament, which are held twice a year. We have examined the subjects which are discussed and find that most of them relate to internal problems of the working of the Railways for which there are other forums available. In the aggregate 18 such meetings are held in a year with 9 Zonal General Managers. These meetings were actually started with a view to eliminating questions or discussions

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on minor railway matters in Parliament, but this purpose has not been served. As a matter of fact, more and more questions have been asked in recent years as indicated by the following figures:-

Year	No. of Parl. questions.	No. of cut motions.	Short notice questions.	Call attention notices.
1	2	3	4	5
1963	1311	49	15	19
1964	1361	56	21	16
1965	1461	225	29	22
1966	2170	282	76	23
1967	2196	578	107	10

2.21 It will be appreciated that most of these questions are ultimately passed on to the lower authorities for furnishing the material for replies. These are men engaged in the day-to-day task of keeping the traffic moving. Whatever time they have to spend on other activities can only be at the cost of their attention to their operational duties. The authorities at the higher levels have also to scrutinise whatever is conveyed to Parliament and this in turn adds to their normal work It is not suggested that all this work can be mpletely eliminated. Parliament as the highest authority has the inherent right to guide and direct all governmental activities and for this purpose must elicit information, but if this is confined to major issues of policy, it will afford the much needed relief to Railway authorities at all levels.

2.22 There are other forums for discussion of railway matters namely —

i) The National Railway Users' Consultative Council.
ii) The Zonal Railway Users' Consultative Councils.
iii) The Divisional Railway Users' Consultative Councils.

Members of Parliament and Legislative Assemblies are suitably represented on these Councils. If necessary, their functions and membership may be reviewed and important matters of public interest may be considered at these forums. In our view, these forums should suffice and no addition is needed. We find that separate Committees have been set up for dealing with time table, book stalls, etc. These are unnecessary refinements. For a special consideration of any specific question, the existing Councils could meet in a sub-committee. The time of the senior executives, who attend these meetings, should be conserved to allow them sufficient time to think and initiate measures for bringing about improvements.

2.23 Mention has been made earlier about the representations received by the Ministers in the Ministry of Railways, of which the bulk relates to establishment matters. These representations may be grouped under the following heads:

(ii) Those which relate to minor punishments, i.e. transfers, postings, promotions, etc.

(iii) Those which relate to major punishments, e.g. dismissal, removal or reduction in grade;

(iv) Those which involve questions of policy or an infringement of some recognised principle or rule.

As regards item (i), the Railway Board should look into such cases and if on any zonal railway there are persistent delays, their causes should be carefully examined. Letters concerning matters referred to in item (ii) above should be passed on to the Railway authorities for disposal and there should be no interference with the decision of the zonal railways. We suggest that representations of class III staff against dismissal or removal, may be referred to the Railway Rates Tribunal, which is presided over by a High Court Judge. Cases mentioned in item (iv) above would naturally require careful examination by the Railway Board and these should be put up to the Minister.

2.24 It is understood that there is division of duties among railway Ministers. Once these have been defined it should be ensured that if any one of them receives representations which concern another Minister, these are passed on to the concerned Minister.

2.25 The Administrative machinery on the railways functions at three levels; namely -

(i) the Railway Board;
(ii) the General Manager;
(iii) the Divisional Superintendent District Officers.

For an efficient and effective management, it is necessary that the functions, responsibilities and powers at these three levels should be defined as clearly as possible so that each of them may function in accordance with the assigned roles and be accounta for what they do. Accountability is possible only when the authorities are allowed to function confidence and a degree of freedom.

2.26 The functions of the Railway Board defined broadly should be as follows:-

i) To function as the Ministry of the Railways to assist the Railway Minister in the discharge of his responsibilities and to coordinate with the other Ministries or Departments of Government;

ii) To formulate policies and to watch their implementation;

iii) To plan a co-ordinated development of the Railways in accordance with the expanding needs and to watch its execution;

iv) To frame the Capital and Revenue budget of the Railways for sanction of the Parliament;

v) To allocate the budgetary grants between the different units of administration on the basis of a system of performance budgeting - a subject discussed in a subsequent chapter (XIV)

vi) To review periodically the trend expenditure in relation to the performance and to initiate measures for appropriate regulation of expenditure;

vii) To maintain a watch on the operational performance and to co-ordinate the activities to the extent individual units are unable to do so;

viii) To take steps to ensure that the work in the various railway workshops proceeds on a coordinated and rationalised pattern;

ix) To frame the various codes, including the detailed rules, for compilation of the statistical data which may be comparable from year to year and to lay down procedures for assessment of the financial justification or economic analysis of developmental works;

x) To formulate the pay and allowance structure of staff with a view to ensuring a degree of uniformity on the Railways;

xi) To sanction developmental works, which exceed the powers of General Managers;

xii) To sanction additional posts, postings, promotions, transfers, etc. of staff which do not lie within the powers of General Managers or which in the view of the Board are necessary;

xiii) To lay down standards of equipment and rolling stock and, as the safety controlling authority, to lay down rules and regulations for this purpose.

2.27 Consistent with the functions mentioned above, the Railway Board should delegate more powers to the Zonal Railways. Considerable additional work is done in the Railway Board in the scrutiny and in according financial concurrence to proposals received from the General Managers duly concurred in by their Financial

Adviser and Chief Accounts Officers. References on handling contracts, compensation claims, purchase of stores and certain establishment matters should be eliminated by decentralisation. There is also considerable correspondence between the Railway Board and the zonal railways in regard to temporary sanctions for gazetted posts. The Board should evolve norms for this purpose and once this is done and appropriate provisions are made in the estimates for such projects, there should be no reason for protracted correspondence between the Railway Board and the Zonal Railways for either operation of these posts or for extension to such posts when the need arises. It is pertinent to mention here that the cost of staff is comparatively small and that more substantial savings can be effected by expediting the execution of major projects and reducing the maintenance costs. The General Managers in conjunction with the Financial Advisers should review once in 6 months all sanctions of temporary posts.

2.28 By reducing unnecessary work in the field of scrutiny of proposals and establishment matters, the energies of the officers, more particularly of the Finance Directorate, can be focussed on major items of expenditure, like the fuel and oil consumption, cost of repairs and maintenance, inventory control and other important matters. These items should be reviewed

.......periodically

periodically, at least twice a year, by a Committee consisting of the Director, Finance, and the concerned Directors in the Technical Directorates. Such reviews should be placed before the full Board for their critical examination.

2.29 In modern practice, a high level organisation, like the Railway Board should be manned largely by senior experienced officers capable of making quick appreciation of the problems of the zonal Railways by themselves and who should need the assistance of only a small proportion of Class III staff. An officer-oriented pattern of working for all the Ministries had been advocated by the Ministry of Home Affairs some yea back. We suggest that the Railway Board should constitute an expert study team composed of persons with experience of work in modern commercial organisation to go into this question.

2.30 Another direction in which the work in the Railway Board can be reduced is by a rationalisation of the statements and returns which the various Directorate call for from the railways. The list of such statements and returns should be reviewed and only those which are real value to the Board in the discharge of its function should be called for. The Railway Board should not concern itself with too much detail of what happens on the Railways. The General Manager of a Railway has his Heads of Departments, who are, more or less, of the same status as the Directors of the Railway Board. If too many details are called for, a feeling of interference is apt to dilute the sense of responsibility in the minds of the senior officers on the Railways. The General Managers and their Heads of Departments should, therefore, be given the freedom to function without interference and without having to answer too many queries. We, therefore, suggest that the Railway Board should set up a Committee, consisting of the Secretary, and 3 Directors, to scrutinise the lists of returns and other information and statements that are now and again called for from the Railways and curtail the lists to the bare essential information required by the Board. The Committee should also scrutinise lists of items, which come to the various Directors for approval or sanction. The Committee should then put up recommendations to the Board for further delegation of powers to the General Managers, bearing in mind the fact that the team of financial advisers in the Railways is fairly strong and a bold policy of decentralization will not involve undue risk.

2.31 To promote efficiency and a better appreciation of the problems and difficulties of the zonal railways, senior Section Officers, Asstt. Directors, Dy. Directors etc. belonging to the Railway Board Secretariat Services may be seconded for sometime to the zonal railways in somewhat equivalent posts to acquire first hand knowledge of their working. This close association of men having experience of Railway Board working will prove beneficial to the zonal railways as well. Some of them, with

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this experience may eventually turn out able executives for top management posts on railways in the general departments.

2.32 We are averse to the proliferation of Deputy Directors in the Railway Board, since their role for high level work is limited. Presumably the best officers available on the Railways are drawn to the Railway Board's office in a formative stage of their career. At this stage, they should undergo hard gruelling in the field work and acquire experience of field problems, rather than remain engaged on desk work. We have found in some cases that officers when they take up higher appointments, suffer from the handicap of having inadequate field knowledge. Good care should, therefore, be taken by the Railway Board and the General Managers that every officer in Junior and Senior Scale has a fair share of experience of field work.

2.33 The proposals that emanate from the zonal railways and the Production Units and which come to the Railway Board for approval would have been properly scrutinised by the Head of the Department in the Railway and the Financial Adviser. As such, these proposals should not again be subjected to a check and scrutiny at the lower level of Assistant and Deputy Directors in the Railway Board's office. This practice is prevalent in certain Directorates and should be given up. The scrutiny should start with a Joint Director and any decision to turn down a Railway's proposal should be taken only by an officer of not less than Director's level and all important cases should be brought to the notice of the Member concerned.

If the scrutiny of cases in the Railway Board starts at higher levels, the zonal railways also will be more careful in formulating the proposals.

2.34 If suitable measures are taken to reduce the work in the Railway Board, as suggested in the earlier paragraphs, we are of the view that the strength of the Directorates could be reduced. The traditional pattern under which responsibility remains somewhat diffused and papers pass through a series of channels before decisions emerge, is dilatory and out-dated in the context of present-day commercial management. In regard to the strength of officers in various Directorates of the Railway Board, certain suggestions have been mentioned in Annexure II/2. As regards the Stores Directorate, the work that will devolve upon it due to the suggestions made in Chapter XI, would have to be taken into account before a final decision is made.

2.35 This examination of the various Directorates has shown that while the strength of officers in some Directorates can be reduced, the Railway Board has not got a good team of management service personnel to examine the various fields where economy is possible. We, therefore, recommend that the Efficiency Bureau should be suitably reorganised under a capable and senior Director possessing an analytical mind. The Efficiency Bureau should have an Economist, a Statistician and an Operational Research Expert, in addition to the other technical officers. By strengthening the Efficiency Bureau in this manner, their studies can cover a wide spectrum of railway operations which should lead to economy and efficiency.

CHAPTER III

ZONAL RAILWAYS

3.01 In the working of the Railways, the General Manager occupies a pivotal position. His position in the Zonal Railway is like that of the Chairman of the Railway Board. His supreme position in the Zonal Railway should, therefore, be recognised and respected. The Railway Board too should appreciate that he is an almost equal partner in the evolution of policies and growth of the Railways. His views should receive a consideration which his position deserves and his responsibilities demand.

3.02 The General Manager of a Zonal Railway is responsible for the implementation of the policies of the Railway Board and for efficient and economical running of his Railway. Likewise, a General Manager, incharge of a Production Unit, is responsible for ensuring a high level of efficiency and quality of workmanship and maintaining maximum output at minimum cost. General Managers, both of Zonal Railways and Production Units, are responsible for maintaining discipline among all the staff under them and to exercise, without fear or favour, powers delegated to them in respect of promotions, transfers, disciplinary action etc. Staff welfare is one of their important functions. Maintenance of good labour relations, which is the key for their success,

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matters of mutual and major concerns. They are to maintain
The General Managers and close contacts with the State Governments, whose assistance is so vital in the maintenance of law and order on the railways and for various other matters of mutual concern.

3.03 The General Managers are assisted by a number of Heads of Departments, who in their own respective spheres, function on his behalf within the limits of the powers delegated to them.

3.04 We have found that at present every zonal General Manager is overworked and too much engrossed in minor matters of a routine character. A substantial portion of this work arises out of matters raised in Parliament and references received from the Railway Board in connection with letters addressed by the Members of Parliament or influential parties to the Ministers, mostly on personnel matters. Local disturbances, interference with train running on trivial grounds, etc., which unfortunately have become frequent occurrences, also take up much of his time. The problem of thefts has assumed serious proportions. To add to these difficulties is the dislocation caused by thefts of telegraph and telephone wires and line fittings and wires in electrified sections.

3.05 Comparatively the labour problem on the Railways has been easier than in other industires, yet it demands the close attention of the General Manager. We feel that every endeavour should be made to reduce the pressure of work on the General Managers so as to allow them time to think and to evolve solutions for the difficult problems that they have to face, and, at the same time, to plan effectively for the future.

3.06 We have already made a suggestion in the previous chapter regarding Parliamentary work. Elimination of unnecessary references from the Railway Board has also been emphasised. We hope that for seeking information much greater use, than at present, will be made of the 10-day D.O. reports of the General Managers and the Directors of the Railway Board will observe a degree of restraint in asking for avoidable information on day-to-day affairs.

3.07 The Labour problem is essentially an internal affair of the Railways but at times intervention of higher authorities causes complications. It is suggested that full opportunity should be given to the General Managers to settle their own affairs locally. If they need the assistance of the central authority, they will themselves seek it.

3.08 Powers of the General Managers should be suitably enhanced and covered by a revised 'negative' schedule specifying only what they are not authorised to do. They should be authorised to delegate these powers suitably to lower authorities.

3.09 Under the existing arrangements, the Financial Adviser and Chief Accounts Officer can be overruled by the General Manager. Except in matters which concern the initial check and the audit functions of the Chief Accounts Officer, this arrangement should continue. At present, the Financial Adviser is authorised, should he feel necessary, to inform the Railway Board on any matter on which he has been over-ruled. We do not appreciate this position, where a Head of the Department can refer a matter to the Board against his General Manager's decision. We, therefore, consider that this special privilege of the Financial Adviser should be withdrawn and that if the Financial Adviser & Chief Accounts Officer feels strongly that the subject matter, on which he has been over-ruled, will have wide repurcussions on other railways, he should request the General Manager to make a reference to the Board. Under such circumstances, the General Manager should make it a point to get the advice of the Railway Board.

3.10 General Managers at present come to the Board to discuss their problems with individual Members whenever they consider it necessary. Each General Manager should further be asked to attend a special meeting with the Board once every quarter when the full Board should discuss with him his operational performance, financial results, and other problems of importance pertaining to his railway and jointly evolve methods of improvement. These meetings should not be hurried and there should be sufficient time to discuss all problems fully and for making a careful review of the position on the Railways. The joint meeting, which the Railway Board has at present with all the General Managers cannot serve the purpose we have in view.

3.11 At the Zonal Railway headquarters, there are far too many departmental heads reporting to the General Manager. This arrangement is unsatisfactory. We have examined various possibilities. In the American Railways, there are two or three Vice-Presidents reporting on the different phases of railway working to the President, who, in their hierarchy, corresponds to the General Manager on the Indian Railways. We have considered whether a corresponding pattern of having three Senior Deputy General Managers, to whom the various Heads of Departments may report will suit. From various practical considerations, we do not consider it advisable to introduce a radical change in a well established and well tried out managerial pattern, and, particularly so when such a change will add to the expenditure. An additional tier between the General Manager and the Heads of Departments is likely to lead to delays and to complicate the position further. Our conditions are different from the American conditions, e.g. career building is on a different basis. We, therefore, have taken recourse to a practice which was in vogue and has worked well.

3.12 We recommend that major heads of departments may be designated as Principal Officers and they should directly report to the General Manager. Other heads of departments will be attached to the different Principal Officers, with whom they have a close link. Under this arrangement, the following will be the Principal Officers and those attached to them:-

Principal Officers.	Attached Heads of Deptts.
Chief Engineer	i) Chief Signal & Telecom. Engineer, and ii) Engineer-in-Chief(Constn).
Chief Operating Supdt.	
Chief Commercial Supdt.	i)Chief Security Officer, and ii) Chief Public Relations Officer.
Chief Mechanical Engineer	i) Chief Electrical Engineer, and ii) Controller of Stores.
Financial Adviser & Chief Accounts Officer	
Chief Personnel Officer	Chief Medical Officer
Senior Deputy General Manager	i) Divisional Superintendents, and ii) Deputy General Manager (General).

The Divisional Superintendents have been placed under the Senior Deputy General Manager for purely administrative control, but as hitherto they will continue to deal with all Heads of Departments and report to them on matters concerning their charges.

3.13 The above would be, more or less, a replica of the Railway Board pattern and, therefore, there should be no difficulty in working to this managerial pattern on the zonal railways also.

3.14 Powers of the Principal Officers, Heads of

Departments and Divisional Superintendents, should also be reviewed so that they may be suitably enhanced with a view to give further relief to the General Manager. We would further like to point out that much of the benefit accruing from a larger delegation of powers will be negatived unless the delegating authority insists on the delegated powers being exercised fully by the officers concerned and refuses to succumb to the temptation of giving unwanted guidance and, more so, of interfering with the day-to-day work of the subordinate authorities. The General Managers, to function jointly as a Board, should also meet his Principal Officers once a week to discuss various problems. Here again, a spirit of team work should be inculcated at all levels. This would not preclude his calling for and discussing matters with the Principal Officers or even other Heads of Departments whenever he finds the need for it.

3.15 Certain other suggestions for improving the efficiency in the Zonal Railway administrations are given below:-

(i) In the Personnel Department, the selection of officers for posting to this Branch leaves much to be desired. Their continuity of tenure is very important from the point of view of the proper functioning of the department. Officers from all the departments are eligible for being posted to the Personnel Branch, but the Heads of Departments are often reluctant to spare their good officers. On the other hand, the work in the Personnel Department is becoming increasingly specialised and is of considerable importance for the maintenance of good labour relations. The Chief Personnel Officer should see to it that only capable officers are posted to this Branch and that they have some continuity of tenure.

(ii) In the Commercial Department also the quality of officers should be improved. There has not been much improvement in the performance of the Commercial Department during these years, although an emphasis was laid on the importance of the working of this department by the Indian Railway Enquiry Committee in their Report. Relevant extracts from the Report are reproduced below:-

> "The need for a strong Commercial organisation has been stressed by other committees that have previously examined Indian railway working. In Section XV, pages 29-37, of the Second Report, the Pope Committee emphasised the importance of the Commercial Department, the one and the only earning department on the railways. They stressed the need for salesmanship,

commercial research, advertising and publicity, and recommend that the Commercial organisation and Personnel of each railway should be overhauled and an intensive compaign organised to attract traffic to the railway, bearing in mind the well proven principle that "facilities begot traffic". The Wedgwood Committee also made a similar recommendation and in paragraphs 116 to 118, pages 70-75, stressed the need of a proper Commercial organisation and the development of commercial research, advertising and publicity.

We must hope and assume that sooner or later the railways will succeed in increasing their capacity to produce transportation until the supply exceeds the demand. When this happens, the commercial branches or departments of the railways will at once become of the greatest importance as it will be their duty and responsibility not only to retain all existing traffic but also to increase earnings by finding a market for the disposable surplus of transportation."(Page 98).

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"We feel that the best and keenest brains on the railways are needed in the senior commercial appointments on the railways."(Page 99).

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"We lay great emphasis on the qualifications that a commercial officer should possess".(Page 99).

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"Generally speaking, the transfer of officers to commercial posts has not been popular in the past owing to a belief that the prospects of promotion to senior posts are better in the case of officers, who have had more experience of Transportation(Traffic) work. From

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> the evidence which we have received from an authoritative source, it appears that there has been in the past a tendency for an officer to be posted to the commercial department because he was not good enough for the operating, and that the commercial departments have developed an inferiority complex. We consider this most unfortunate because of the importance of the work of this department, and, therefore, recommend that the pay and status of the departmental heads and other officers of corresponding rank in both the Operating and Commercial Departments should be equal and that as far as possible avenues of promotion of officers in the Commercial Department should not be relatively restricted. We also consider that selected officers should be given encouragement for special study, which should include post-graduate courses in Railway Economics, attendance at Conferences on Commercial subjects, and visits to other Railways in India to compare methods of working. In certain cases it may be desirable to depute officers to make special studies in other countries."(Page 100).

The impression which we have formed is that in most cases officers found wanting on the Transportation side are transferred to the Commercial side. This is a wrong approach. Commercial work is of a specialised character and is extremely important for the development of traffic and providing satisfaction to the customers. While we do not suggest a complete separation of the Commercial and the Transportation cadres at this stage, we consider that after the officers recruited to the Class I service have gained sufficient experience in both these departments from 6 to 7 years, an equitable distribution should be made between the two departments by mutual agreement between the Chief Operating Superintendent and the Chief Commercial Superintendent. There should, however, be no embargo on an occasional transfer of officers from one department to the other, but normally it should not be necessary. There is a feeling among the officers that those who work in the Commercial Department cannot ordinarily rise to the highest level. This impression should be corrected.

(iii) We have later advocated the separation of the Workshop cadre from the Maintenance (Running) cadre in the Mechanical Engineering Department. We have also made a study of the system of recruitment in vogue. We consider that, for the time being, it will be worth-while continuing the present system of combined recruitment from the Jamalpur (Special Class Apprentices) Training School as well as the Union Public Service Commission. After these officers have worked for 4 or 5 years in both the departments, an equitable distribution could be made between the two separate cadres on the same lines as indicated in the case of Transportation, and Commercial Officers.

....(iv)

(iv) The fuel and oil consumption on the railways is a major item of expenditure but the problem does not seem to have been tackled effectively. In Chapter XVII, we have discussed this subject in detail. We suggest that it should receive the importance which it deserves. It should be worth-while intensifying the check and supervision of this item. We, therefore, suggest that one post of a Fuel Officer should be upgraded to that of a Deputy Chief on major railways, where the Deputy Chief Mechanical Engineer (Running Loco) is so pre-occupied that he cannot pay sufficient attention to this subject. A number of senior scale officers are posted at the Headquarters, whose work may be redistributed, and those who can be spared may be placed in charge of fuel economy on the divisions.

(v) We also suggest that Assistant Officers should be posted to regulate storage and supply of diesel oil at various depots. We consider that these officers could be found by effecting economy elsewhere. We feel that the sources of leakage can be pluged effectively by introducing high level control.

(vi) Carriage & Wagon Department on some of the Divisions, where a separate Divisional Mechanical Engineer has not been posted to look after it, is ineffectively managed. The combined Divisional Mechanical Engineer naturally pays more attention to locomotive problems, as these affect the day-to-day operations. We consider that a separate Divisional Mechanical Engineer, Carriage & Wagon, should be posted practically on every Division.

(vii) The management of the workshops on railways should also be strengthened. The pattern of management in these workshops even now conforms, more or less, to what it was in the olden days where a senior scale Works Manager could manage the situation; but now conditions have changed. No industrial undertaking of a comparable size is entrusted to an officer of the status of a Works Manager drawing about Rs.1000/-. Normally he is a fairly senior executive and is assisted by staff and officers of sufficient seniority and experience. In this respect the Railway Workshops are greatly handicapped. We suggest that a workshop, employing about 2000 workers, should be placed under the charge of a Deputy Chief Mechanical Engineer as its Works Manager and that bigger workshops should be under a Deputy Chief Mechanical Engineer of the Divisional Superintendent's grade. Senior and experienced Personnel Officers should also be provided. In this connection, it should be realised that the ratio of officers to staff in the Mechanical Department is the lowest and this position should be rectified to ensure better supervision.

(viii) Our views regarding utilisation of senior scale officers at the headquarters are generally the same as those that we have expressed in para 2.32 regarding Deputy Directors in the Railway Board.

(ix) Generally speaking, the pattern which seems to have developed on railways provides every Deputy Chief with a senior scale officer to assist him. This is not desirable. Problems requiring consideration at the higher level should alone be referred to the headquarters by the divisions or the workshops and these should be dealt with by the Head of the Department or his Deputy. We, therefore, think that a detailed investigation is necessary in this respect and some of the senior scale posts at the headquarters may be reduced..

(x) Public Relations - This is a department which should function much more energetically and effectively. The Press is a strong medium for building up public opinion. We find generally that, as far as the railways are concerned, there is less of favourable publicity and more of adverse comments in the newspapers. Use of computers, for example, has received more adverse publicity and little has come out regarding the new ground the Railways hope to cover with their help. We certainly do not wish that an incorrect picture may be projected, but there are numerous good things done by the Railways which should be properly publicised, e.g. improvement in amenities, travel facilities, quicker transport, more train services, etc. Difficulties of others' creation, which hamper efficiency, should be high-lighted e.g. theft of fittings, dislocation of communications by unruly elements, etc. There should, therefore, be greater liaison with the Press

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and more informative publicity should be arranged.

(xi) Attention may also be drawn to the low proportion of officers in the zonal railways, as also the wide variation in the ratio between officers and other staff in the different major departments, as will be seen from the following figures:-

	1951-52:	1956-57:	1961-62:	1966-67:
Administration	1:40	1:34	1:40	1:44
Accounts	1:101	1:94	1:83	1:79
Civil Engg.	1:452	1:265	1:314	1:221
Commercial	1:386	1:315	1:297	1:275
Transportation	1:419	1:459	1:402	1:452
Mechanical	1:804	1:713	1:631	1:712

These figures speak for themselves. On the engineering side a large number of Construction Engineers have been included which somewhat vitiates the ratio. In the Transportation and Mechanical Engineering Departments, the figures clearly point out the low proportion of officers, In order to get the traffic through, these officers have to keep on chasing and watching the movements and ensuring timely supply of locomotive power. They have also to remain available during off-duty hours to attend to telephone calls and often are called out on holidays and at night to attend to unusual occurrences. Their workload and responsibilities have greatly increased. In the future, the operating Running Staff and the Mechanical Maintenance Staff will keep on increasing with increase in traffic and the pressure of increased work will again fall on the shoulders of officers in these Departments. It should, therefore, be recognised that relief to them merits prior consideration. In all heavy divisions, there should be Deputy Chief Optg. Supdt. and Dy. CME in place of senior scale Divisional Operating Superintendent and District Mechanical Engineer. The problem will have to be kept under constant review in the light of the expansion of traffic.

(xii) In the context of the increased density of traffic and the present trends towards running faster and heavier trains, the maintenance of track has assumed new dimensions. The time available for conducting maintenance and renewal operations has also considerably reduced. New techniques have, therefore, to be developed and men, who are mostly illiterate and accustomed to simple conventional methods of track packing and renewals, have to be trained in these new methods of working. Inspection is of the essence in civil engineering work but as far as track maintenance is concerned, much greater use must be made of track recording cars, which must be run more frequently and the result of the operations communicated to the concerned parties most expeditiously. With the changes, advocated by us in the system of working, it would appear reasonable to reduce the strength of senior scale officers in the zonal headquarters and a corresponding increase in their strength in the divisions where the focus of supervision should lie in future. An additional post of Superintendent, Way & Works in the Junior Administrative grade may be created in the heavy divisions to co-ordinate the work of the two Divisional Executive Engineers and he may also have another senior scale officer to assist him for the modernisation of track maintenance and bridges. However, the actual number that would be affected by the proposed re-arrangement would be a matter for a detailed job analysis by each zonal railway.

(xiii) As regards the organisation of the Financial Adviser & Chief Accounts Officer, we have elsewhere advocated some reforms in the procedures for financial scrutiny and according of sanctions with a view to re-organise the work on a more rational basis. On the Accounts side the use of computers will, in due course, considerably steamline the accounting work. These measures will gradually reduce the work-load of these departments and must inevitably lead to substantial savings.

(xiv) The North Eastern and the Northeast Frontier Railways have been working on the District pattern, which was retained for consideration other than operational. The various districts under the jurisdictions of different departmental officers on these Railways are not even co-terminus. The required co-ordination is now effected at the Headquarters level, which leads to correspondence and delay. We recommend that these two railways should also be divisionalised so that efficiency can be improved. Divisionalisation on these railways is also called for on account of their strategic location. This may mean some initial expenditure for establishing the new offices for the Divisional Superintendents, but this has to be faced. As regards staff, we consider that it should be possible to effect the divisionalisation without any increase in staff. On the other hand, by bringing together district offices, which are now widely dispersed, it may be possible to effect some savings in staff. The staff strength at the headquarters of these two railways can be reduced after divisionalisation. We suggest that this should be carefully reviewed in the light of the adjustments in work-load that can be effected after divisionalisation comes into force.

(xv) The work-load on some of the divisions has become very heavy and relief is necessary. The Railway Board has created the posts of Deputy Divisional Superintendents on some of the divisions to assist the Divisional Superintendents. We do not consider that this is a satisfactory arrangement. If the workload on a division is so heavy as to warrant relief, the best course is to divide it up territorially into two. If a few extra officers are needed, they should be unhesitatingly provided. Normally in such a case, the two divisions could function from the same headquarters. Divisional centres generally have been conveniently located and the multiplication of headquarters may not be necessary. Under the proposed arrangement, certain departments, like the Personnel, Medical and Accounts, can be common to both the divisions from the same headquarters. It is only in respect of departments like Operating, Civil Engineering, Mechanical and Signalling that separate officers will have to be provided for each division. It should be possible to work out bifurcation of divisions functioning from the same headquarters without any increase in the strength of clerical staff.

3.16 As regards individual railways, suggestions for consideration have been mentioned in Annexure III/5.

CHAPTER IV

MANAGEMENT STRUCTURE - RECRUITMENT, TRAINING AND CAREER PROSPECTS, ETC.

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4.01 The Railways had vast problems of rehabilitation in the post-Independence era and later had also to meet the challenge of increasing traffic and the brunt of two Emergencies in 1962 and 1965. It has been possible for the Railways to stand this strain only because of the inherent strength of the organisation built up by men, having experience in Transportation, Civil, Mechanical, Electrical, Signalling Engineering, and Personnel Management and who had grown up with the Railways. The present management structure, wherein the top-most executives combine managerial, secretarial and technical functions, is, therefore, the most suitable for a vast public sector undertaking of this type.

4.02 The future task of the Railways is even more challenging. In the context of the still faster pace, needed for the full development of our economy, the Railways have to fulfil the important rolé of providing the necessary infra-structure to meet the growing needs for transport. This necessitates greater effort and a new orientation in the outlook. It calls for qualities of leadership from the officers and greater readiness to shoulder higher responsibilities in providing the most economical transport to meet the ever-growing requirements

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and a better appreciation of service to the community and of the needs of the staff working under them. A continuous flow of a stream of hard-working, efficient, honest and devoted railwaymen has to be built up to satisfy the above requirements. This can be made possible only if the railwaymen at all levels are well looked after and are happy and contented and can look forward to their future with confidence and satisfaction.

4.03 From our visits to the railway headquarters and other important centres of activity, as also from a study of the representations received from the officers' associations, we have gained the impression that there is a general feeling of frustration amongst all categories of officers and the supervisory staff, which, we are afraid, is gradually undermining their morale. While the work and responsibilities grew and their important role was thus brought sharply into focus, the anomalies of their grades of pay, slow promotion opportunities, unfavourable pay scales in comparison with those of others, who are their contemporaries in the government or semi-government departments, and the blockage at different promotional stages, arising out of large scale recruitments in successive years leading to stagnation made them feel frustrated. Those sent on deputation to the public sector or those who voluntarily took up assignments elsewhere, were much better off. These disparities have caused considerable discontentment. We have devoted considerable thought to this matter. We realise that any overhauling of the pay structure, would be too big a task for us and really outside our purview, but we cannot avoid taking note of this as an important administrative problem, having an inevitable impact on the efficiency and loyalty of officers and other supervisory staff engaged on intensive operational duties. We have already stressed the special nature of the work, railwaymen are called upon to perform and we feel that their emoluments should be commensurate with their duties. We have, therefore, examined this matter carefully and have suggested certain adjustments and modifications, in keeping with the respective duties and responsibilities, and, as far as practicable, within the framework of the existing pay structure in Government and Public Sector Undertakings. We hope that the implementation of these suggestions will improve the position.

4.04 The present ratio of officers to the staff in the major departments of the railways is very low. The ratio in the departments, mainly engaged in operation on railways is the worst, being 1:452 for the Transportation, and 1:712 for the Mechanical Engineering departments. The total strength of officers in the railways is 7105 and of the other staff 13.61 lakhs and thus the average proportion of officers and staff as a whole is only 1:185.6. The comparative position in relation to other Government Departments is given below -

Officer Staff ratio

Railways	1:185.6
Indian Postal Service	1:143
Civilian Defence Departments	1:108
Other Government Departments	1:17

Considering that the Railways form a vast industrial complex, with the utmost need to ensure proper labour management relations, this ratio is unduly low.

4.05 The percentage of posts in the Junior Administrative grades of Rs.1300-1600 and above, as compared to the total number of officers in the Railways and the corresponding percentages in other departments of the Government are as follows:-

Railways ..	12.2	includes deputation posts
Indian Audit & Accounts Service ..	40.0	
Indian Defence Accounts Service ..	34.0	
Indian Income Tax Service ..	23.0	
Indian Postal Service ..	22.0	

4.06 The emoluments normally drawn by officers with different lengths of service in the major departments on the Railways, as compared to those drawn by officers in other Government departments, are shown in the following table :-

...Years

Years of service	"y Indian Postal Service	* Indian Defence Accounts Service	* Indian Audit & Accounts Service	@ Indian Revenue Service (Income-tax)	"y Railway Service
1	2	3	4	5	6
11	1420	1100	1300	940	940
16	1540	1800	1540	1200	1100
21	-	2500	2250	2240	1480

*A large number of posts in the Indian Defence Accounts Service and Indian Audit & Accounts Service carry special pay which has been excluded from this table.

@ Based on classfied list of officers- 1965

"y " " " " " " - 1966

4.07 The above figures speak for themselves. The position which was bad enough in 1956, will progressively worsen because of the rate of retirement lagging far behind the rate of recruitment. For example, 101 officers were recruited to the Class I cadre of the Indian Railway Traffic Service in 1957. Between 1968 and 1974 only 52 traffic officers in the Administrative grades will be retiring from this service, that is, an average of less than 8 per year. From 1968 to 1982 about 200 officers will retire, the annual average being 14. If the first officer of the 1957 group is promoted to the Junior Administrative grade after 17 years of service as in 1966, the last of the group will reach the Junior Administrative grade in 24 years. This clearly brings out the disadvantageous position that obtains in the railways. It has been represented to the Committee that in certain other central services, steps have already been taken for the expansion of the cadres, upgrading of posts and improvements in scales of pay of certain posts, A recent case pointed out is the announcement made for the Defence services, where not only some posts are understood to have been upgraded, but additional posts have also been created in the higher grades. Similar steps are understood to be under contemplation in the Indian Police Service. These developments in the other sectors have been specifically brought to our notice by the Federation of Railway officers.

4.08 Recruitment to Class I cadres of the Railways is made by the Union Public Service Commission through Combined Services Examination. The allotment of candidates is done on the basis of the preferences of the candidates and their position in the order of merit. The experience is that in the case of the Engineering Services, the candidates prefer Railway service to the others. However, the bulk of the top students from the Universities seem to prefer the private industries and the public sector on the ground of better pay, perquisites and prospects and many of them even do not appear in the Union Public Service Commission examinations. Somewhat similar is the position in respect of the Indian Railway Accounts Service. But, as far as the Indian Railway Traffic & Transportation Service is concerned, Railways receive a lower preference as compared to the other Central Services like the Accounts and Income-tax services. This is cause for concern and steps must be taken to attract the best talent for this service and the other railway services.

Much of the operational economy depends upon the capability and initiative of these officers.

4.09 We shall now formulate our proposals for improving the pay scales and career prospects of officers. We do not suggest any change in the junior scale, since recruitment to this scale is done through a combined competitive examination which is common to all the other services. Nevertheless to maintain a good standard in the railway services, the chances of promotion and the proportion of higher grades have to be substantially improved because these seem to be the main reasons for candidates preferring the other services.

4.10 It will be observed from para 4.05 that the chances of promotion from the senior scale to administrative posts are less on the railways, as compared with the position in the other Government departments. On the other hand, the duties and responsibilities of a senior-scale executive officer in a Division, are perhaps heavier than those of officers in many other departments. It is seen that people who have joined the railway service after passing the competitive examination in 1947 are still in the senior scale. Ordinarily it takes 16 to 17 years for an officer in the Civil Engineering, Operating and Mechanical departments to reach the junior administrative grade which starts at Rs.1300. Besides, their contemporaries, who had joined the other services, are appointed to higher posts. Bearing all the factors in mind, we are convinced that the position of senior scale officers generally on the railways in regard to emoluments is unsatisfactory. It is at this stage of their service that the officers feel the pinch most and when their zeal and devotion to duty have to be developed.

4.11 The senior scale on the railways starts at Rs.700/-, with a service of 6 years and under. No one normally reaches the senior scale in less than 6 years of joining the service. In the Indian Administrative Service, however, their counterparts start at Rs.900/- in the senior scale. We consider that this anomaly is inconsistent with the extent of responsibilities which the senior scale officers have to carry on the railways. In this connection, we give below extracts from the Report of Study Team on Promotion Policies, Conduct Rules, Discipline & Morale, Volume I -

> "Jobs similar in nature and of comparable difficulty, duties and responsibilities should carry the same scale not only in the Central Government but also between Centre and the States".

xx xx xx

> "Grade 6 (Rs.900-50-1000-60-1180-EB-60/2-1300) may comprise of position involving very difficult and responsible work of technical supervisory or administrative nature requiring specialised training and experience and intimate knowledge of a specialised and complex subject matter, with latitude for the exercise of independent judgment under general administrative or technical direction. Typical posts include District Officers, Deputy Commissioners and Collectors, Deputy Directors, Senior Scientific Officers, Under Secretaries to Government of India, Deputy Secretaries to State Governments, Superintendents of Police in some States, etc."

We, therefore, recommend that the starting salary of officers in the senior scale in the Railways should be Rs.900 for officers with service of 6 years or under. We are not advocating just at present a revision of the incremental scale or the maximum of the grade but only the starting salary.

4.12 While the suggestion contained in the above paragraph will improve the emoluments of the senior scale officers, it will still not improve their avenues of promotion to the higher grades. Considering the present low percentage of higher grade posts on the Railways and also considering the increasing responsibilities, that are devolving on the divisions specially along with the increased delegation of powers, which we have recommended earlier, we suggest that certain posts in the divisions should be upgraded to junior administrative posts as suggested below:-

(i) One Divisional Mechanical Engineer's post to be upgraded to the Junior Administrative grade.

(ii) One Divisional Engineer's post to be upgraded to the Junior Administrative grade.

(iii) One Divisional Operating Superintendent's post to be upgraded to the Junior Administrative grade.

(iv) In addition, the Works Managers of all the workshops, employing more than 2000 men, should be upgraded to the Junior Administrative cadre.

(v) Track Supply Officers at the Headquarters of major Railways should also be in the Junior Administrative grade.

.......If

If these recommendations are accepted, the proportion of administrative posts to the other posts in the 3 major departments of the Railways will work out as follows in comparison with what is existing at present:-

	Existing percentage of administrative posts to other posts.	Proposed percentage of administrative posts to other posts.
Civil Engineering	10.5	14.8
Mechanical	12.1	16.0
Operating	14.0	17.4

With this arrangement, and with more delegation of powers to the Divisional Superintendents, the Divisional Superintendent and his officers should be able to manage the work in the Division, with as few references to the headquarters as possible. This will in turn expedite the work and will do away with the need for a number of junior officers in the headquarters. The functions of the headquarters office will then be to co-ordinate the work on the various divisions and to give the necessary administrative and technical guidance with the least interference with the day-to-day work of the division. By the strengthening of the Divisional Organisation with a junior administrative officer for the major departments, it will be possible to reduce the extent of references necessary to the headquarters office and this in turn can, in the course of time, reduce the size of the ministerial staff in the headquarters office.

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4.13. It may be mentioned here that promotion to junior administrative posts is at present made by the Railway Board with the approval of the Minister of Railways. This creates considerable work in the Railway Board and transfers are also frequently made at this stage from one railway to another on grounds of seniority. The Accidents Committee had recommended that transfers in this grade might be avoided. We reiterate this recommendation. Each zonal railway has its own pecularities and problems and to shift officers from one railway to another at this stage is not conducive to efficiency. To avoid undue disparities, cadre adjustments may be made by the Board by inter-railway transfers of officers at the early senior scale stage. The power to promote officers to the junior administrative posts may also be delegated to the General Managers. For this purpose General Managers should constitute Selection Boards of Heads of Departments. The recommendations of the Selection Board will have to get the approval of the General Manager and the Railway Board should be advised of the names of selected persons for information. This will considerably save office work and time of the Railway Board.

4.14. Divisional Superintendents at present are of two grades; the junior grade being Rs.1300-1600. and the senior grade Rs.1600-1800. The responsibilities of a Divisional Superintendent are very heavy and of a complex and diversified nature, as he controls the activities of all the departments in the Division and, in effect, his

.........organisation

organisation and work are a replica of those of the General Manager. The number of staff on a Division varies from about 20,000 to 30,000, His responsibility for the efficient and economic movement of traffic, maintenance of track, rolling stock and other equipment and the execution of works in his area combined with the welfare of staff, maintenance of good labour relations and safety of the travelling public are in no way less important than those of officers holding Schedule 'D' appointments in the Public Sector which carry a grade of Rs.2000-100-2500. We, however, recommend that there should be only one grade for Divisional Superintendents and this should be Rs.1800-100-2000 till such time as the pay of the heads of departments is revised upwards. In the succeeding paragraph we have suggested that the Government should consider this.

4.15. The Federation of Railway Officers have represented to us about the urgent need for revising the pay scales of Heads of Departments and other higher officers on Railways. They have stated that the work load and responsibilities of a Head of Department on the Railway and the number of staff controlled by him are comparable with those of officers in Schedule 'C' appointments in the Public Sector, who are in the grade of Rs.2500-3000. They have also mentioned that in the past, the pay of the major heads of departments on the Railways was fixed in such a manner that the maximum of the scale used to correspond with that of the maximum of the scale of pay of a Joint Secretary to the Government of India. They have stated that in the pre-1931 period, when the pay of the Joint Secretary used to be

Rs.3000, the grade of the major heads of departments was Rs.2750-3000 and that after the Pay Commission Report, when the pay of the Joint Secretaries was fixed at Rs.2250, the pay of the major heads of departments on Railways was fixed at Rs.1600-2250. They represented that the pay of the Joint Secretary has recently been revised and is now Rs.2500-2750. They, therefore, expect that the parity, which existed previously in the scales of pay of the heads of departments with that of Joint Secretaries to the Govt. of India, will be restored. We do not propose to go into this question as it is part of a much larger issue. We are, however, drawing the attention of the Government to this, for such action as they deem fit.

4.16. The General Manager occupies a pre-eminent position in the railway hierarchy. He is in charge of a railway system, which extends to many States. The revenue of an average zone is of the order of Rs.70 to 100 crores. Management problems on the railway zones are extremely heavy and these are accentuated by the fact that the number of employees, for whose work, discipline and welfare he is responsible, varies between 1,00,000 and 1,50,000. This burden is definitely more than that of the Managing Director of even the largest public sector enterprise. Schedule 'B' scale for top management posts in Public Sector Undertakings is Rs.3000-125-3500 and this grade applies to the Chairman, National Mineral Development Corporation and the Managing Directors of Bharat Aluminium Company and Bokaro Steel Ltd. The General Manager of a zonal railway is now in the fixed grade of Rs.3000/. Since it may be difficult to revise this grade, which is the same as that for an Additional Member of the Railway Board or an Additional

Secretary to the Government of India, the Government may consider, how best a parity with the Public Sector could be maintained in the case of the General Manager, consistent with his responsibilities.

4.17 Seven posts of Directors in the Railway Board have been upgraded to the Joint Secretaries' grade in the Government. This has created anomalous position, as the other Directors who carry similar responsibilities in their own spheres, naturally feel aggrieved. We are averse to hair-splitting distinctions, which create psychological tensions and lead to little financial gain. We, therefore, recommend that all Directors in the Railway Board should be placed in the same grade.

4.18 Coming to the post of the Chairman, Railway Board, it may be mentioned that prior to 1951, when the post of Chief Commissioner of Railways was kept in abeyance, his pay was Rs.5,000 as against Rs.4,000 in the case of Secretaries to the Government and he enjoyed a higher status. As Principal Secretary to the Government, the functions and responsibilities of the Chairman, Railway Board, are, at present, the same as it used to be for the Chief Commissioner of Railways. The pay, however, is now fixed at Rs.3,500. The Federation of Railway Officers has pointed out about the inequality in the scale of pay of the Chairman, Railway Board as compared with that of the heads of the major public sector undertakings in the country. They have brought to our notice the fact that while the pay of the heads of some of the public sector undertakings in Schedule 'A' Appointments is Rs.3,500 - Rs.4,000, the pay of the Chairman, Railway Board is only Rs.3500. We are bringing this also to the notice of the Government.

4.19 We now come to the method of selection for higher appointments. /The weightage given to seniority for appointment to selection posts is sometimes quite disproportionate to merit and has resulted in the selection of an unsuitable person for a post. The posts of Divisional Superintendents, Heads of Departments, Principal Officers, General Managers, Members and Chairman of the Railway Board are key posts in the Railway Administration and considerable care should be exercised in selecting officers of outstanding merit for these posts. They should possess an intimate knowledge and experience of railway working, a high standard of technical ability, a knowledge of modern management techniques and qualities of character and leadership, which will infuse dynamism and inculcate team work all round. In this connection we suggest that for higher appointments, the railways should establish a management development programme, like the one followed by the British Railways.

4.20 Every management post - a post in which results are produced through other people by planning, organising, motivating and controlling their work - should be listed and categorised according to its job specifications. Management posts in each department may be listed separately, e.g. one category may include technical posts of Directors, Heads of Departments and Joint Directors; the second may include posts falling under general management, namely the posts of Divisional Superintendents, General Managers, etc. and the third category may include specialised jobs, involving research and development work in the Research, Designs & Standards Organisation, Principals of Training Institutes or specialists in the field of costing, work study and operational research. It should be possible to lay down the aptitude, qualifications and experience, needed to equip the officers for each of these categories of posts. It should also lay down the training courses and the job experience that would be normally required in order to get better results from them.

4.21 The second step in management development is to have an objective appraisal of a person's performance and potentiality. At present an annual confidential report is written on every officer by his immediate superior, which is required to be endorsed by the next higher authority. In our view the standard proforma for confidential reports needs to be more comprehensive and the reports should be more detailed than at present, so that any one, who reads them, may form a proper appreciation of the concerned officer's work and ability. The form in which similar reports are written on the British Railways and the procedure for making an annual appraisal may be studied in this connection. On every officer there should be, as far as possible, a separate appraisal by three different persons. This would enable more objective appraisals to be made and permit an officer's performance to be viewed from different angles. The three appraisals should be reviewed by the controlling officer who should then record his own appraisal of the officer's performance and potentiality. The controlling officer may even discuss with the concerned officer his past performance and his own preference for future line of promotion. These, however, need not be binding. Here also, the appraisal sheet used on the British Railways may be suitably adapted to our requirements.

4.22 The third aspect in this programme should be to match the job and the man. It should be constantly borne in mind that not every promising officer can hold all types of management posts. A fair amount of specialisation even in the management area is essential and inescapable. Also every job requires a varying mix of professional and managerial abilities. It is the function of the management development to find a person with the proper mix to man each job. A management inventory for senior management posts in different categories should be maintained and reviewed every year to keep it up to date. Officers who have entered the 10th year of service should be watched more closely and the outstanding ones should be chosen for being given a variety of experience and training. All the persons, listed in the inventory, should be trained on a programmed basis in order to develop their management potential. For this purpose, management courses of varying duration should be held regularly in the Railway Staff College. Officers should also be sent for training to the Administrative Staff College at Hyderabad and the Institutes of Management in Calcutta and Ahmedabad. Suitable officers for foreign training should also be picked up from this inventory and given training according to their specialised needs and requirements. We regret to say that this problem of career building has been neglected so far and we wish to emphasise its extreme importance for the promotion of efficiency on the Railways. We suggest that a Management Development Cell may be created under the Secretary, Railway Board.

4.23 We also suggest that every year the Railway Board should form panels for the posts of Divisional Superintendents and for this purpose call for a list of three or more names from each General Manager. The General Managers' selection should be based on the general assessment and reputation of an officer, on an examination of the confidential reports and an intimate consultation with the Principal Heads of departments. The Secretary, Railway Board should scrutinise these lists and with his comments and the confidential reports put them up for consideration at a Board meeting, where a panel of suitable officers may be drawn up. It is also considered that it would be better if the Board interviewed those whose names have been proposed, before making their selection. This would certainly add to the work, but this selection is so important that no effort should be spared to select the best men. The approval of the Minister of Railways may then be obtained. All vacancies during the course of the year should then be filled from this panel.

4.24 Likewise, in the case of Principal Officers and Heads of Departments, the Railway Board should call for recommendations every year from each General Manager and draw up a panel. In regard to General Managers' selection, the Chairman and the Members of the Board should keep a note of suitable officers on the basis of a review of the confidential reports as also their own impressions and assessments, made during their inspections. Each Member of the Board should make a list in his own hand-writing of the names of officers, whom he considers suitable for consideration and make over this note to the Chairman. The chairman, after examining all these notes, should draw up a panel, discuss it at a Board meeting with the Members, and then get it approved by the Minister.

4.25 We find that there have been frequent changes in respect of General Managers and Heads of Departments. It will be appreviated that as it requires time to grasp the complexities of a new railway system, to know the men, and to plan out a proper course of action, it is not desirable that there should be very frequent transfers of key management personnel. It may be that many of these transfers become inescapable on account of promotion to senior posts or weighty administrative considerations. We would like to emphasise the necessity of keeping officers in key posts long enough to enable them to grasp the intricacies and specialities of their particular assignments. Under these circumstances, if it has to be ensured that the persons selected for higher management posts have to work for a minimum period, say of three to five years, it will be necessary to select people to fill these posts when they are comparatively young. This would require the application of very rigid tests of selection of the outstanding and promising officers in their early forties so that they can be given adequate experience in key positions before they step up to the higher levels of the hierarchy. We suggest that the Railway Administrations should pick up at a comparatively early stage of their career, officers, who would ultimately occupy the highest positions and give them the necessary training and experience for shouldering higher responsibilities. We are surprised by the frequency of changes in the posting of administrative officers on the North-east and Northeast Frontier Railways. Frequent transfers are a serious impediment to efficiency and steps should be taken to avoid them both in senior as also in junior assignments. It has also been found that some young officers remain attached to the headquarters or the Railway Board continuously

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for a long time and are kept away from field work which in our view, is not desirable.

4.26 For an organisation like the Railways, there should be adequate training facilities for railway officers at various stages of their career. The arrangement in the Defence Department, where a number of training courses followed by promotion tests are held for the selection of staff for higher posts seems to be worthy of adoption on the Railways. The Railway Board should introduce similar training courses and tests and only those, who have passed these tests should be promoted. It is felt that on joining railway service, the probationers should be well grounded in the principles and details of railway working before they are given charge of working posts. After 4 or 5 years of service, when they have acquired some maturity, they should attend the advanced training at regular intervals in refresher and specialised courses to bring their knowledge up-to-date. The contents and programme of training prescribed for probationers and serving officers should be constantly kept under review so that the training that is imparted is suitably geared to the advancements taking place in the concerned field. Human Engineering should be made a special subject for instruction, as it has not received the emphasis which it deserves.

4.27 At present, training is imparted to the Railway Officers in the following railway institutions -

.....a)

a) Railway Staff College,
Baroda,

b) Indian Railway School of Advanced
Permanent Way Engineering, Poona.

c) Indian Railway School of Signalling Engineering and Telecommunications, Secunderabad.

d) Indian Railway School of Mechanical
& Electrical Engineering, Jamalpur.

In addition, the probationers of Indian Railway Accounts Service and the Indian Railway Traffic Service are also deputed to the National Academy of Administration at Mussoorie. We feel that some rationalisation of the facilities is now needed, considering the total number of officers to be trained. It has been found that the present capacity of the Railway Staff College, Baroda, and the Advanced Permanent Way Engineering School, Poona, is not adequate. With the present capacity, the Railway Staff College at Baroda can take only 110 officers. There are over 7000 officers on the Indian Railways and they have to be given refresher course, say, every 5 years, and in addition, the probationers and Class II officers have to be given initial training. Therefore the facilities at the Baroda Staff College will have to be expanded to cater for at least 200 officers at a time. The present capacity at the Poona School, which is sufficient only for 40 trainees at a time, should also be increased to be sufficient for about 60 at a time. The question, therefore, arises whether these two institutions are to be separately expanded or whether they can be combined into one institution and also whether this combined institution should be located at a more suitable place. Lucknow has been suggested as a more appropriate location, since the Research, Designs & Standards Organisation is also headquartered there. While establishing a combined institution at Lucknow may mean a capital expenditure of Rs. 2 or 2.5 crores, as a long term measure it may be advantageous to do so. The officers, under training, will also get an opportunity of being in touch with the Research Designs & Standards Organisation during their training period and it will be advantageous for them to know the various new problems under investigation in the Research Organisation. The Research Designs & Standards Organisation's officers should also be able to give lectures and advanced training to these officers. Duplication of facilities like the library etc. can be avoided and staff costs can be reduced. We, therefore, feel that before any further expansion is attempted at Baroda or Poona, this proposal should be carefully looked into.

4.28 We also suggest some changes in regard to the promotion of Class III staff. For their promotion to Class II a certain percentage is fixed but disproportionate weightage is now given to seniority with the result that most of those who are promoted cannot go up beyond that level. Deserving class III employees should have

....opportunities

opportunities to rise to higher positions. Young men of merit should, therefore, be given opportunities for training and taking up special promotion courses and qualify themselves by passing the prescribed tests for promotion to Class II. This will naturally give them opportunities to rise still higher.

4.29 In regard to the experienced Class III staff employed in senior appointments and who are in the old age groups, certain improvements to the maximum of the grade are necessary. All these posts are in the grade of Rs.450-575. We suggest that for 10% of these posts, the maximum should go up to Rs.700. A special grade should be introduced, which may rise up to Rs.700 with an annual increment of Rs.25. It is much better to retain a good Foreman or an Inspector in his present capacity rather than promote him to Class II for the last few years of his service. It is for this reason that we have recommended the grade going up to Rs.700. In addition, to encourage and to give an incentive to such very senior men, we suggest that one per cent of the total posts in the present Rs.450-575 grade should be vested with honorary gazetted rank. This will enable certain selected senior staff in categories like Station Superintendents, Loco Foremen, Traffic Inspectors, Permanent Way Inspectors, Loco Inspectors, Chief Controllers etc. being given an honorary gazetted rank.

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4.30 We now propose to deal with the avenues of promotion of the Class III and IV staff. As a result of Justice Shankar Saran award, avenue charts have been prescribed for each category of staff and this is being implemented on the Railways. Since then the level of education in the lower categories of staff has improved and will improve still further. The Railway Board, should, therefore, periodically review what further improvement in the avenues of promotion of Class III and IV staff can be effected.

4.31 If the pattern of organisation and the method of work which we have suggested is implemented, it would result in some of the staff in the Railway Board and on the Railways becoming surplus. It will be necessary to determine which categories of staff and in what numbers they are likely to be rendered surplus; and to determine, who are likely to be the persons involved. A special officer in the Railway Board from the Establishment Directorate and likewise an officer from the Personnel Branch at each Railway Headquarters should be entrusted with the responsibility of finding posts for their absorption. For this purpose, special training programmes should be started to provide facilities to the staff for acquiring the necessary skills with a view to their absorption in posts, where trained personnel are required of approximately similar or equivalent status. Age limits which might prevent this type of staff from appearing in a competitive test, for other appointments should be waived.

It is realised that no one can be retrenched and, therefore, proper arrangements should be made to ensure that surplus staff are suitably placed in the existing or future vacancies on the railways as quickly as possible.

4.32. **The** recruitment of a large number of temporary officers had been made to meet the demands of the extensive development on the Railways. The following numbers are at present on the temporary list: .

Civil Engineering	389
Electrical Engineering	139
Signalling Engineering	80
Mechanical Engineering	10
Stores	9
Traffic	15
Total	642

The proportion reserved for absorption of temporary officers in Class I service is 17.5% of the annual recruitment. We appreciate that it is not possible to increase this percentage. A review of the performance of temporary officers, with a view to weeding out those whose performance is below par, is now in hand in the Railway Board. Even after weeding out, the number of suitable officers left over for absorption in permanent vacancies, will be quite large. With the present rate of absorption, which is about 10 to 15 a year, this problem cannot be satisfactorily solved and these officers will continually feel frustrated with their uncertain position. We realise that the programme of developmental works on Railways will be reduced, but it has to continue at a certain level. We, therefore, suggest that a reasonable assessment of this level and the level of expenditure in future years may be made and, to this extent, these temporary officers may be permanently absorbed. This would be the best solution to the problem.

4.33 We now turn our attention to a pressing demand made by railwaymen regarding some preference being given to the children of railway employees. Prior to the enactment of the Constitution, in the matter of recruitment to railway services, preference used to be given to the children of railway employees and this had paid a rich dividend, in that persons who had grown up in railway environment and who had railway working in their blood, entered the railway service and proved their mettle in such important categories as those of drivers, guards, station masters, permanent way men, etc. In fact, this was one method of ensuring the loyalty of the senior staff, to whom nothing was more important than employment given to their children, particularly, when they were on the verge of retirement. Considering the fact that the railwaymen work in all weather conditions and at all times of the day and night in emergencies, at various points and that some of them work in out of the way places with no access to big employment centres, this concession that was extended to them, namely giving preference to their children in railway service, was a great boon to them. This was commented upon in para 95 of the Railway Accidents Committee report 1962 as well, wherein it was recommended that 25 per cent of the vacancies should be filled in by the General Managers from amongst the sons of railway employees. The relevant paragraph is reproduced below:-

> "Employing sons of railway employees:
>
> In Part I of our Report, we have already recommended that 25 per cent of the vacancies should be filled by the General Manager from amongst the sons of railway employees. We are not aware of the action taken by the Government on this recommendation. It is our considered view that this will go a long way in meeting the shortages, apart from the much needed boosting of the morale of the staff. We consider that the railways should not be treated as a mere Government department while taking decision on this matter. They should be conceded the prerogative of a commercial organization having the authority to reward its good workers by employing their sons."

No action could be taken by the Government on this recommendation due to constitutional limitations. The importance of the matter compels us to ask the Government to reconsider this recommendation.

4.34 The present procedure and method of punishment does not provide for any incentive to an employee to improve. It has been represented that even an employee, who has done excellent work in the past, gets punished for a single mistake. The punishment is inflicted without taking into consideration his previous work, because there is no procedure for recording the good work done by the employees. A system of merit marks for good work somewhat on the lines of the Brown System of discipline may be considered.

4.35 The practice of periodically transferring the staff, who come into contact with the public, whether a station master, a commercial clerk, or any other category, is causing considerable disruption in the service conditions of the employees and there have been representations from the railway Federations against such periodical transfers. We consider that this practice up-sets the morale as also the loyalty of the staff, who are responsible for the safe and efficient work of the railway system and that periodical transfers should not be resorted to. Only if there are specific proved complaints, should such transfers be ordered and that too after taking into consideration all aspects of the work of the employee.

4.36 Some of the Zonal Railways have over-centralised personnel work at the headquarters. The Railway Board should ascertain the exact position on each Railway and decentralise it, to the maximum extent, in favour of the Divisions on a uniform basis.

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4.37 Personnel administration on the Railways, due to the large number of employees and the complex staffing pattern, calls for considerable skill and experience and a complete knowledge of the Labour and Establishment rules. It has been represented to the Committee, both by the National Federation of Indian Railwaymen and the All India Railwaymen's Federation, that the quality of personnel officers, at present on the Railways, particularly at the lower levels, is not equal to the burdens placed on them. They have also represented that the "grievance machinery", working under the personnel officers is not effective in that the Welfare Inspectors are not discharging their functions satisfactorily. The Federations even went to the extent of saying that the system in vogue, prior to the formation of the personnel department, when the departmental officers were responsible for the welfare and discipline amongst staff under them, worked better and that the staff had direct access to their departmental officers who would redress their grievances promptly. While a reversion to the old practice is not advisable now, considering the complexities of personnel administration and the special knowledge required of Labour and Establishment Rules, we consider that this aspect, which has been represented by the Federations, requires careful consideration and that steps should be taken to improve the personnel administration on the Zonal Railways by taking the following steps -

a) special care should be taken in respect of the recruitment and training of personnel officers and it will be advantageous, if persons with qualifications in Sociology are given preference, while selecting persons for such posts,

b) the Personnel branch should be put on equal footing with other major departments of the Railways,

c) Personnel officers should ~~not~~ be changed frequently. It takes considerable time for an officer to understand the staff problems in a particular Division or District and if they are changed too frequently, the entire purpose of personnel administration will be defeated. Personnel officers at all levels should not be changed in less than 4 years,

d) while personnel officers will be responsible for the effective functioning of the "grievance machinery", welfare activities and ensuring that representations received from the staff are dealt with promptly, there should be no element of interference with the departmental officers.

CHAPTER - V

OPERATION

5.01 The importance of efficient and economic operation of the Railways needs no emphasis. It has, therefore, been examined in some detail.

5.02 Passenger and freight transport had been steadily increasing till the recent set-back to the freight traffic, which was mainly due to the economic recession. An indication of the development and its trends, from the inception of planning, may be gleaned from the figures given below:-

(Figures in millions)

	1950-51	1955-56	1960-61	1965-66	1966-67
Passengers	1,284	1,275	1,594	2,082	2,191
(Index)	100	99.3	124.1	162.1	170.6
Passenger Kms.	66,517	62,400	77,665	96,294	102,135
(Index)	100	93,8	116.8	144.8	153.5
Freight in tonnes.	93.0	115.9	156.2	203.0	201.6
(Index)	100	124.6	168.0	218.3	216.8
Tonnes Kms.	44.117	59,576	87,680	116,936	116,607
(Index)	100	135.0	198.7	265.1	264.3

5.03 The percentage of total freight traffic handled by diesel or electric locomotives is as follows:-

	B.G.		M.G.	
	Diesel	Electric	Diesel	Electric
1966-67	40.75%	19.99%	27.24%	1.07%
April to Sept.67.	41.5%	20.6%	29.0%	1.1%

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5.04 To provide for this rapid growth, various schemes of development were undertaken and the investment made during the Plan periods was as follows:-

	Capital	Depreciation*	Development* Fund	*Revenue	Total
Ist. Plan	1431.6	2064.9	505.3	232.9	4234.7
2nd Plan	5492.7	3204.2	1214.5	525.5	10436.9
3rd Plan	11407.8	4603.0	1314.1	533.6	16858.5
1966-67	1607.0	796.9	279.5	100.3	2783.7
1967-68	1500.0	1038.0	220.0	102.5	2860.5

(*Internal resources)

5.05 Principal improvements effected in the movement capacity since the inception of planning are:-

i)	Doubling	5110 Kilometres
ii)	Additional crossing stations:	
	a) on double lines	49
	b) on single lines	564
iii)	Modernisation of yards on the Eastern Railway - T.Kms.	
	Mughalsarai	300
	Andal	179
iv)	Introduction of route relay interlocking at	17 stations
v)	Introduction of C.T.C. as an experimental measure on two metre gauge single line sections, namely, Chupra-Gorakhpur on N.E.Railway and Bongaigaon-Changsari on N.F.Railway.*	311 Kilometres
	(*work still in progress)	

vi) Introduction of automatic signalling on - 516 Kilometres

vii) Electrification of lines - 2798 Route Kilometres (7124 Train Kilometres)

viii) Conversion of metre gauge Section to broad gauge - 507 Kilometres

ix) Additions to rolling stock:

a) Wagons (in units)	164423
b) Steam Locomotives	2493
c) Diesel locomotives M.L.Shunting	710
d) Electric locomotives	331

ELOPMENT OF LWAYS IN ANCED NTRIES

5.06 In the advanced countries, 4 wheeler wagons have been largely replaced by bogie stock with centre buffer couplers. These couplers are designed to stand heavier strains, which enables train formations and their haulage by multiple diesel or electric locomotives. Fewer trains are thus operated on sections at faster speeds and sufficient flexibility is available for movement and track repair. Signalling has been modernized. Automatic power signalling and centralised traffic control have practically eliminated the human factor in the processes of line clear working, operation of points and signals and consequent delays have been avoided. Wherever centralised traffic control is not in vogue, the arrangement of having fewer trains minimises the strain on the control and train passing staff at Stations. Marshalling yards have also been mechanised. The operation of points is arranged through electrical devices in

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a pre-set sequence, based on the requirements of shunting operations. Automatic retarders have been provided to control the speed of movement of shunted wagons, which thereby avoids damages due to impact against other wagons. Investment in line capacity works has been kept down. In fact, in the USA, considerable lengths of double or quadruple lines have been lifted and single lines, with modern signalling and efficient tele-communications, adequately serve their needs on most busy sections. Passenger train density is, however, generally low and the goods train loads have gone up to 20,000 tons.

MODERNISATION OF INDIAN RAILWAYS.

5.07 Recognising the value of above developments, the Indian Railways also started developing on these lines. These improvements, however, have been concentrated on B.G. sections, which handle 84% of the freight traffic. On the metre gauge, centre buffer couplers of a weaker design have been in use all along. The existing policy of the Railway Board is to provide only bogie stock for the metre gauge and a large proportion of bogie stock equipped with centre buffer couplers for the broad gauge.

5.08 Coupling, however, presents a problem on the broad gauge, as the screw coupling, with which the old stock is equipped, does not match with the centre buffer couplers. Some of the new bogie stock has, however, been equipped with what is known as the transition coupler, which serves the dual purpose of screw coupling and centre buffer coupler. It is intended to cover the period of transition, until the position has been stabilised. The latest thinking of the Board is in favour of having the transition coupler in all bogie stock, which will facilitate unrestricted loading and movement of wagons, throughout the country.

5.09 In Japan we understand that about a year's preparatory work was done before the introduction of the centre buffer coupler and rail operation was stopped for 24 hours and all the resources in shops and sick lines were mustered to equip the entire stock with the C.B.C. within this time. It is realised that the problem on the Indian Railways is bigger and has its own complications. But a definite policy should be evolved with regard to the future shape of things, and implemented with determination. It seems clear that all the new stock, bogies or 4-wheelers, should be equipped with the C.B.C. hereafter. It is understood that a centre buffer coupler, suited for 4-wheeler stock, is being designed. It has already been examined that the structural changes, necessary in the existing stock to introduce C.B.C., will not be very expensive. Since wagons have to undergo P.O.H. in the shops at an interval of 3½ years, the maximum time for change-over should normally need exceed this period and an attempt should be made to implement it in respect of the stock which is likely to last for more than 10 years, rather than perpetuate the present complication.

5.10 The mercantile community are used to 4-wheeler wagons and prefer them since the tonnage required to load them fully is comparatively small. The problem for the Railways, however, is one of providing a type of wagon which would be most economical in transport. If the 4-wheeler wagon, which the Research, Designs and Standards Organisation is designing, proves as economical or even marginally less economical than a bogie wagon, it could be considered for future use, provided its load also matched the carrying capacity of bogie wagons on the metre gauge. Since the position is somewhat fluid at the moment, definition of policy on this question should await the outcome of R.D.S.O's effort.

5.11 The length of crossing loops has been standardized by the Railway Board and this governs the length of trains at present. Maximum loads of trains with the existing loop lengths are:

	4-wheelers	BOX wagon
Broad Gauge	72-2200 gross tons	45- 3600 gross tons
Metre Gauge	72-1400 gross tons	46- 1400 gross tons.

5.12 The Indian Railways have so far been using the vacuum brake equipment. The R.D.S.O. has been examining the possibility of improving the efficiency of the vacuum brake and has reached the conclusion that, with certain modifications,

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it can effectively be employed for handling BOX wagons trains upto a maximum load of 2600 tons. A higher pay load bogie wagon with a gross load of 90 tons has since been designed, which, with the existing length of loops, will enable an increased train load of 4050 tons, practically twice that of a 4-wheeler train. This, however, seems the limit of effectiveness of the vacuum brake. If longer trains with higher tonnage have to be hauled, the use of air-brakes would seem necessary.

5.13 The density of freight traffic on the Indian Railways, which is fairly high, compares favourably with that in the advanced countries. The comparative net ton kilometres per route kilometre are as follows:-

		B.G.
1)	Italy	1000
2)	U.K.	1050
3)	France	1745
4)	Canadian National	1906
5)	Canadian Pacific	1931
6)	German Federal	1973
7)	Japan	2647
8)	India (B.G.)	3413
9)	U.S.A.	3519

5.14 Judged from the above figures and the high density of passenger traffic, which again is higher than that in the western countries, and an outmoded signalling and communication system which frequently remains ineffective, the performance of the Indian Railways is decidedly impressive.

5.15 Lawlessness, to which the Indian Railways are an easy prey, has been a great handicap. Its ramifications are fairly wide and disturbing. A handful of miscreants and groups of onlookers, who wittingly or unwittingly join them to set at naught the ordered working of the Railways, prevent train movement, threaten the staff on duty and indulge in vandalism. Be it an organised bundh, a protest demonstration or even a petty grievance, connected or unconnected with the Railways, these elements find a strange satisfaction in disrupting railway movements. Students too follow their example. They all apparently view the Railways as an emblem of the Central Government authority and not as a public utility organisation, designed for the benefit of the people. Oblivious of the massive derangement to the Railway working, national loss and set-back to the normal life of the people, a small group of lawless elements hold the society to ransom.

5.16 Thefts also create problems for the Railways. The Central Railway authorities at their meeting with us, most distressingly related the gravity of the situation and informed us of the latest technique of stopping running trains by short circuiting the electric power signalling for committing thefts. They also told us about the thefts of copper wire and the placing of stones and boulders on the track etc. The demand for additional suburban trains, which could not be reasonably fulfilled, was pressed home, by resorting to the stoppage of trains.

5.17 All these calls on busy executives add to the operational difficulties. That this situation predominates around the Metropolitan towns (Bombay-Calcutta, Delhi etc.), which are the hub of intense transport activity, causes a pronounced disturbance to the movement of traffic in these areas. Trains in these areas follow in quick succession and stoppage in the flow of traffic leads to chaotic conditions, which it takes hours to rectify. The higher authorities wish to remain in touch with them and, therefore, these incidents have to be reported right upto the Board level. The officers, therefore, cannot give their undivided attention to their normal duties and function under a continuous state of stress and tension.

5.18 We have given considerable thought to the problem of lawlessness. Law and order is a State subject. This is grave national problem and all that we can say is that the Government at the Centre and in the States should apply their minds as to how the public opinion may be mobilised with a view to tackling this problem.

5.19 The basic problem of operation is the efficient usage of rolling stock. The important indices for judging the efficient usage of rolling stock are -

a) Wagon kilometres per wagon day

b) Net ton kilometres per wagon day.

c) Engine kilometre per engine day (on line)

   i) Steam

   ii) Electric

   iii) Diesel

d) Net ton kilometres per engine day (on line)

e) Speeds of through goods trains

   i) Steam

   ii) Electric

   iii) Diesel

The position in respect of these indices is detailed below:-

a) Wagon Kilometres per wagon day (B.G).

5.20 The best result was 76.9 wagon kilometres per wagon day in 1960-61. The results have since steadily gone down. In 1966-67 it was only 70.2 which is approximately 10% lower. This signifies more detentions in marshalling yards and at terminal points. The stabling of trains enroute also seems to have increased. The average speed meanwhile has gone up from 16.1 in 1960-61 to 16.5 kilometres per hour in 1966-67 and this shows the wagon detentions must have gone up by more than 10%. The best results attained in each Railway during the years 1956-57 to 1965-66 and the figures for 1966-67 are given below:-

Statement showing wagon kilometres per wagon day (B.G)

	Best result	1966-67
All Railways	76.9 (1956-57) & (1960-61)	70.2
Central	102.2 (1960-61)	74.6
Eastern	63.4 (1965-66)	61.1
Northern	103.3 (1960-61)	76.6
Northeast Frontier	50.9 (1966-67)	50.9
Southern	73.1 (1956-57)	54.3
South Central	65.1 (1966-67)	65.1
South Eastern	71.0 (1956-57)	69.0
Western	126.3 (1962-63)	94.6

The deterioration which is marked on the Central, Northern, Southern and Western Railways has caused us great anxiety. We have broadly examined the reasons for the deterioration and find that -

a) Part of this is due to surplus wagons which either remained idle or due to a sense of complacency, movements became slower. The Railway Board has informed us that 18,000 wagons are surplus to normal requirements over the whole railway system.

b) Detentions to wagons in steel factories and washeries are high.

c) Detentions to wagons in certain marshalling yards are high, e.g-

*1) Raichur	47.6 hrs.
*2) Arkonam	40.6 hrs.
*3) Tondiarpet	37.4 hrs.
*4) New Katni	30.5 hrs.

(*Figures relate to March, 1967)

.......d)

d) Movements on certain routes have not been free, leading to the hold-up of trains or stabling; the important ones being:-

i) On the Western Railway, from the Ratlam to the Ahmedabad area. We were informed that due to the persisting failures of the handling contractor at the transhipment points at Sabarmati and Viramgam, these terminals were always congested and consequently trains could not be received freely and were held up enroute or stabled.

ii) On the Northern Railway the terminals remain congested and wagons are either detained in marshalling yards or trains are stabled.

iii) On the Southern Railway, due to the Madras Port frequently blocking back without prior notice, the stabling of trains and the consequent slowing down of movements is a regular feature.

iv) On the Central Railway, due to the insufficiency or inefficiency of the electric locomotives between Igatpuri and Bombay, movements are not free and there is inadequate capacity on Agra-Jhansi-Bina section.

v) On the South Central Railway, due to inadequate facilities at Dhond, and the difficulties of movement beyond, wagon movement is slow.

vi) Percentage of serviceable wagons has also gone down from 96.68% in 1960-61 to 95.79% in 1966-67. Wagons under repair were -

	Goods Wagons (BG)
1960-61	3.32
1965-66	3.99
1966-67	4.21

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5.21 These causes are all remediable and Railways should take effective steps to remove them. Having reached a particular level, they should improve their performance and not slide back. It should be realised that better performance would bring down the requirement of wagons and the investment thereon. Ten percent saving in B.G. wagons will give a sizeable saving in investment. For effecting improvement it is suggested -

a) The Divisional Superintendent concerned should take up, one by one, the marshalling yards and terminal stations, where wagon detention is high and have thorough investigations carried out with a view to introducing remedial measures promptly.

b) The Zonal Headquarters should likewise examine the problem of the stabling of trains and take energetic steps to eliminate such hold-ups.

c) The problem of detention to coal and iron ore wagons in steel works warrants very careful operational research. In respect of washeries the report of our study is given in Appendix V/7.

d) The replacement and withdrawal of wagons from sick lines should be prompt and if the time taken in repairs is excessive,its causes should be removed.

....e)

e) Thermal Power Stations which regularly need a large quantity of coal, should provide tipplers for unloading coal wagons. In fact, at all major traffic points, there should be mechanical devices for loading and unloading BOX wagons.

5.22 We do not favour a large cushion of wagons and consider that the objective should be to meet unforeseen fluctuations of traffic by better utilisation of wagons and better methods of chasing. With growing industrialisation, it is expected, a steady demand will develop and seasonal fluctuations will be mitigated.

5.23 The problem of the movement of the recent wheat crop in the Punjab and Haryana, when the exportable surplus mounted to over two million tons, which the Railways were called upon to move in a month or so before the rains broke out, has a lesson for the future. Firstly, it has to be recognised that the movement of such a large volume of food grains, without considerable advance preparation is an impossible task. It involves the loading of about 1200 to 1500 wagons and the movement of about 20 special trains daily. The necessary siding facilities at the despatching and receiving stations for the stabling of empty wagons, their loading and unloading, together with the necessary labour,

..... should

should be available. The requisite road transport for bringing it regularly to the loading point and removing it from the unloading point should also be available, because no railway system can afford to allow its wagons to be utilised as store houses, nor can it have accommodation in the goods sheds for the storage of so large a volume of food grains. The problem, therefore, should be tackled in the future on two fronts. Firstly, the Food Ministry or the Food Corporation in conjunction with the traders or otherwise, should arrange to provide storage godowns or silos, at recognised grain mandies, in the surplus States, to hold buffer stocks. Secondly, the Food Corporation should give as much advance intimation of the programme of such movements as possible so that the Railways may make necessary plans, within the resources which could be mobilised by them. The problem mentioned above is likely to be an annual problem in some of the surplus states and the Railways should examine it in conjunction with the Ministry of Food and evolve a plan of action which could be implemented at short notice. Facilities for loading and unloading round the clock should be aimed at in an emergent situation. Arrangements for the mobilisation of resources should be thought out and laid down for the guidance of those concerned. In the same manner, in the matter of coal movements also, coal dumps should be created to even out the requirement of wagons.

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5.24 With growing electrification and dieselisation and the revised instructions for train examination at distances of 300 miles in the case of 4-wheelers and 500 miles in the case of bogie wagons instead of every 100 miles, the whole conception of marshalling and interchange at zonal junctions should change. The marshalling of wagons for the farthest point, consistent with the availability of traffic, should be aimed at.

5.25 The Railway Board have already laid down marshalling orders, but the pattern, quantum of traffic and the facilities keep on changing. These orders should, therefore, be periodically reviewed. A number of minor yards and interchange points, which do not constitute terminals of traffic, should be skipped over by trains marshalled for long distances. Under steam traction, due to engine changing and train examination at close distances, these yards were inevitably used but since diesel or electric trains can run through without a stop, these yards have lost their significance. Continuous study should be made to eliminate the stoppage of goods trains or the hold up of wagons at such points. An indication of what is intended may be had from a few suggestions given below:-

i) Moghalsarai should marshal trains for the Central Railway with through-loads for Bhusawal or Jabalpur. Such trains should be moved from Moghalsarai by Central Railway diesels straight to the destination without a stop at Cheoki. Only wagons for roadside stations from Cheoki to Jabalpur may then be sent to Cheoki, which would greatly reduce the work at Cheoki. Merely for recording the individual wagon numbers for interchange purposes should not necessitate the hold up of through trains. A spare copy of the guards tally of through trains may be sent to Cheoki from Moghalsarai.

ii) Through trains from Moghalsarai to Northern Railway should not be held up at Subddarganj, where the facilities should be suitably reduced. Moghalsarai should form through trains for Tughalakabad and important centres in Punjab, for which train load traffic is forthcoming.

iii) Nimpura yard on the South Eastern Railway should marshal trains for Tondiarpet and, via Gudur, for Jalarpet or Erode on the Southern Railway. These trains should proceed untouched at Waltair or Vijayawada. In fact, arrangements should be made to by-pass these yards, because once a train enters a marshalling yard it is apt to be detained.

iv) Raichur is only a notional point for interchange of wagons. Train examination and the hold up of trains there, should be eliminated. In fact, the closing down of the shed and various facilities at this station should be considered.

v) Gudur is another notional point for interchange, where there should be no facilities for train examination etc.

vi) Trains from Western Railway to Delhi area need not stop at Mathura. At Mathura the various interchange facilities should be suitably modified.

vii) Trains from Tundla to the Western Railway should be intensively examined at Tundla and there should be no hold up at Jumna Bridge for interchange examination. Likewise the wagons for the Central Railway (Agra area) and beyond should be examined at Tundla.

viii) Train examination centres should be based on grounds of safe working and not on interchange.

......ix)

(ix) If train examination of through trains falls at a busy yard like Vijayawada, it may be considered whether it would be advantageous, taking into account the cost that would be involved, to base it at the adjoining station so as to avoid the hold-up of trains in a busy yard.

(x) The General Manager, South Eastern Railway has conducted operational research to reduce detention to wagons at a number of centres on his Railway and has effected improvements thereby. His studies should be circulated to other Railways for similar action. Likewise certain practices leading to operational improvements introduced by the Divisional Superintendent, Asansol, which are of considerable practical value and are cost-saving, should be communicated to the other Railways. We understand that the Chairman, Railway Board is pursuing this matter.

5.26 Some other suggestions which we would commend are:-

(a) That a national plan for All-India Marshalling should be evolved bearing in mind, the principles indicated.

(b) That the key yards should be well equipped and preferably mechanised for the task. It pays to do so if a yard handles more than 1000 wagons daily through the shunting grids. The yards suggested for mechanisation are Kanpur, Tughlakabad, Bhusaval, Nimpura, Tatanagar and Tondiarpet. In the coalfields area, Patherdih and Bhojidih merit consideration for mechanisation. The benefit of mechanical retarders in smaller hump yards may also be considered.

(c) Development of facilities in yards other than the key yards should be viewed with caution, as it is visualised that with long distance marshalling and running of through trains, with electric or diesel engines, the strain on intermediate yards will be greatly minimised.

(d) The Bombay & Calcutta Port authorities should also consider the desirability of mechanising their marshalling yards so as to comply with the marshalling plan of the Railways.

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5.27 Zonal Railways should consider this problem of marshalling from the point of view of overall benefit accruing from it and not from a parochial angle with the object of getting rid of wagons from their area anyhow. Yard masters are apt to take the line of least resistance to relieve their own yards and ignore the marshalling orders. This tendency should be ruthlessly curbed, and marshalling orders rigidly observed. If these orders are well conceived, it should not normally be necessary to run more than one mixed load a day between two focal points e.g. Moghalsarai to Lucknow or Moradabad, at the present level of traffic. The object should be to centralise the marshalling work at the key yards, located close to the points of origin of traffic. These are well known principles but they have been stated simply because they are overlooked at times.

(b) Net ton kilometres per wagon day (B.G).

5.28 The figures for the years 1960-61 to 1966-67 are given below:-

1960-61 - 998
1961-62 - 973
1962-63 - 1007
1963-64 - 987
1964-65 - 921
1965-66 - 940
1966-67 - 900

The best result was obtained in 1962-63, while in 1966-67 it was the lowest. Normally with an increasing proportion of BOX wagons, with a better pay load than that of ordinary wagons, this figure should have improved. Two apparent reasons for this drop are:-

.....i)

i) A drop in the wagon kilometres per day.

ii) A drop in the percentage of loaded kilometres to total wagon kilometres. Since 1955-56, the lowest figure of 68.3 was in 1964-65, while the highest figure of 72.0 was in 1955-56.

It is recognised that considerable empty haulage of wagons to the ports and transhipment points was involved in the food movements which apparently contributed to a drop in the percentage of loaded movement. A close watch should be maintained on empty haulage and average wagon loads.

(c) Engine kilometres per engine day on line:

5.29 The statement given below, indicates the comparative position since 1960-61 upto 1966-67:-

	Steam	Diesel	Electric
1960-61	113	263	116
1961-62	111	246	151
1962-63	107	277	222
1963-64	93	291	247
1964-65	96	308	267
1965-66	91	319	270
1966-67	90	318	247

It will be noticed that the performance of steam engines has deteriorated. We have been told that with electrification and dieselisation, these engines have been relegated to slower services. Diesel and electric trains receive precedence over them. The problem is essentially one of increasing the speeds of trains and judicious scheduling of slower services. While the steam engines remain, an endeavour should be made to secure the maximum possible output from them. The practice of extended runs should be continued. An analysis should be made by each Zonal

Railway to determine their actual requirement of steam locomotives and the surplus stock should be stored in good repair for use in emergencies. The tendency to keep a larger number of engines in circulation, than actually required, is uneconomical and should, therefore, be discouraged.

5.30 The output of diesel and electric locomotives is also low. They have been recently commissioned and their past trends, which in effect, were trial periods, have no relevance for purposes of comparing the existing results, or being taken as a guide for fixing targets of performance. A special team of engineers under the Efficiency Bureau of the Railway Board had made a comprehensive study of the economics of electrification vis-a-vis dieselisation. They came to the conclusion that on a section with gradients ranging upto 1 in 200, a diesel or electric locomotive should give an output of about 700 kilometres per day per engine on line and this should be the objective to be pursued by the Railways. Such studies should be made for every section, where these engines operate to determine the optimum output.

5.31 In our discussions with the General Managers, we found that the percentage of electric engines, under repairs, is high on the Eastern and Northern Railways. Average kilometrage per failure is also unsatisfactory being 161000 KM on the Eastern Railway and 65453 KM on the

Northern Railway. The Eastern Railway complained of a multiplicity of types of electric engines and consequent maintenance problems. They also complained of inadequacy of competent trained staff. Steam engine maintainers have apparently been seconded after some training but have not yet built up the requisite expertise. They also complained of some design defects in the Japanese locomotives.The Northern Railway complained that the indigenous electric equipment on the Chittaranjan engines was inefficient and liable to failure. We need not dilate upon this subject as we understand that the Railway Board is fully aware of it. It should take up the matter with the parties concerned and take prompt remedial measures. It may be mentioned that the diesel and electric engines are sophisticated machines and their maintenance problems should be set right as soon as they arise. Procedures for efficient maintenance should be established and adhered to. While the teething troubles are there, it is necessary to have sustained intensive supervision and an adequate supervisory staff for this purpose. A closer officer-oriented supervision by experienced electrical engineers is, therefore, necessary.

5.32 We have earlier recommended extended runs for diesel and electrical locomotives. In this connection, we wish to make the following further suggestions:-

i) For movements between Katni on the Central Railway and the Western Railway, there seems to us no logic in changing the diesels at Bhopal. Bhopal again is almost a notional interchange point and trains properly marshalled should run through this junction. Central and Western Railway engines should be pooled for this purpose. There is a feeling among the operating authorities, that the adjoining railways do not give sufficient attention to the quick movement and disposal of engines of other railways. We hope such parochialism would be scotched. We, are definitely of the opinion that zonal boundaries should not demarcate the limits of extended runs.

ii) Electrical engines of Eastern and Northern Railways should be pooled for running through-trains through Moghalsarai to the maximum extent practicable.

iii) For the same reason, we have elsewhere suggested Central Railway diesels operating from Cheoki to be extended to Moghalsarai for through-train movement.

iv) The same applies to movements from Nimpura on South Eastern Railway to the Southern Railway.

v) At the terminating points, diesel or electric engines will inevitably be detained; therefore, to the extent such terminal can be eliminated by having extended runs, the wasteful halt of engines and wagons will be avoided and the output will improve.

vi) These engines require weekly technical attention for about 3 hours for pit-inspection, when normally they are taken to sheds. It is axiomatic that when an engine goes into his home shed, more time is likely to be taken, if for nothing else, at least for the movement to and from the shed. The provision of facilities at suitable yards for such examination, while the engines are held up awaiting a return load, may be advantageous.

vii) In the case of diesel engines, operating mail and express trains, the outstation halt in some cases is excessive, notably at Delhi. It should be examined, whether this halt can be curtailed by running these engines to some further point. For example, the Frontier Mail may be worked with the diesel engine upto Saharanpur. Further, the halting time at outstation may be utilised for its technical examination, thereby eliminating some homestation halts.

viii) Diesel and electric engines, being available for 20 to 22 hours out of 24, the fullest possible use must be made of them on the run. The Divisional Superintendent, Asansol, maintains a chart in the control office, showing the hold-ups of diesel and electric engines at the terminal points. We hope that similar charts are maintained in other divisions and are examined regularly so as to curtail idle time.

5.33 These are well-known principles but we have mentioned them to complete the picture. Suggestions for further increasing the output of these engines have been made in connection with the speeds of goods trains.

(d) Net ton kilometres per engine day (on line) B.G.

5.34 The net ton kilometres for the years 1960-61 to 1966-67 are given below:-

	Steam	Diesel	Electric
1960-61	40,697	166,358	63,483
1961-62	39,629	144,405	92,510
1962-63	38,117	180,322	156,526
1963-64	32,812	208,701	171,795
1964-65	27,786	220,833	190,123
1965-66	26,581	224,448	199,115
1966-67	22,241	218,050	182,742

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Two factors contribute to this performance:-

(i) Speed and availability of engines for movement;

(ii) The average load of the trains hauled.

We have already commented upon the output of engines and the speed question will be commented upon later. Regarding the loads of goods trains, it is necessary that the hauling capacities of different types of engines on various sections should be carefully determined by actual trials and the train loads adjusted accordingly. The variation in the haulage capacity of different groups of engines naturally demands that their location and runs should be so well planned as to ensure an optimum output. If diesel engines are allocated for hauling a 4-wheeler wagon train on the Northern Railway with level sections, an optimum output cannot be achieved. If what a W.G.steam locomotive can do is done by a diesel, uneconomical usage is inevitable. On level sections of railways, if diesels are used to improve the line capacity, they should preferably haul bogie wagon trains. We realise that rigid regulation of availability of bogie wagon trains to synchronise with the availability of diesel engines at terminal points is difficult but this should be borne in mind by those who allocate power. Normally, the allocation of diesels for the haulage of light loads on sections, where the line capacity problem does not arise, is not desirable. The maximum running of bogie trains of 3,600 tons is, therefore, advantageous if diesels are to be used. On gradient sections, the power of the locomotive should match the loads to be hauled. Gradients, however, vary from area to area and engines for all the variations cannot be provided. Loads are, therefore, adjusted to suit the availability of power. It is, however, desirable to avoid load shedding at intermediate points. The provision of diesels on such sections will normally be beneficial. In some cases, even with a diesel engine, load shedding becomes necessary. For such cases, a diesel booster of a 1000 H.P. may be found useful to avoid load shedding and for improving the throughput. An attempt should be made to organise power arrangements in such a way that trains may move from one terminal point to another without intermediate shunting and load adjustment.

5.35 We have been informed that the capacity of W.D.2 engine is not being fully used on some level sections, notably on the Northern Railway, which in turn creates some maintenance problems and indicates the necessity of better regulation of loads and speeds. Two types of diesel engines are at present in use; W.D.1 having 1800 H.P. and W.D.2 having 2600 H.P. Their allocation seems to us somewhat arbitrary and needs consideration. The Southern Railway has been allotted W.D.2 engines and the South Central Railway W.D.1. In consequence 2500 tons trains leave Tondiarpet(Madras) and shed their load at Vijayawada. On an integrated section, such load adjustment leads to unnecessary shunting, detention to trains, and pressure at an intermediate yard and this militates against extended runs. Likewise W.D.1 engines have been allotted for the Barkak-ana loop, which has gradients. A single W.D.1 diesel engine hauls a train of 28 BOX wagons, whereas, a W.D.2 diesel engine would haul 40 BOX wagons. Since about 200 BOX wagons are loaded daily with coal in Patratu area, movement by W.D.2 diesel engines seems to us the better solution. On the other hand, W.D.2 engines have been allotted for the Sahebganj loop of the Eastern Railway and the Northern Railway, where gradient are not encountered and those engines are also utilised for hauling 4-wheeler trains. We consider that the policy of allocation of engines for different services should be reviewed by the Railway Board and their allocation should be made so as to produce the maximum output.

5.36 On certain level sections, where the movement of 4-wheelers is inevitable, the question of extension of loops may be considered. On the Bezwada-Madras section loop lengths are 2500 ft., which allow the movement of 80 wagon trains. The extension of the loops by 300 ft. or so, in order to have equally long loops between Moghalsarai and Delhi on the Northern Railway and on the Sahebganj loop of the Eastern Railway, and the Moghalsarai-Saharanpur route should be considered.

.......(e)

(e) SPEEDS OF THROUGH GOODS TRAINS (B.G)

5.37 The following table gives the average speed of through goods trains from year to year, commencing from th First Plan. period, for each class of engines:-

(Train km. per train engine)

	1957-58	58-59	59-60	60-61	61-62	62-63	63-64	64-65	65-66	66-67
Steam	16.7	16.9	18.5	18.9	18.3	17.7	17.2	16.7	16.6	15.5
Diesel	22.8	23.5	22.4	22.5	22.1	22.3	22.4	23.5	24.0	24.1
Electric	19.5	18.8	19.0	20.1	17.1	20.1	21.2	23.0	23.7	25.3
All Tractions	16.7	17.1	19.0	19.2	18.5	18.4	18.8	19.4	20.1	20.2

It will be noted that speeds of trains hauled by steam engines have gone down appreciably. Compared with the best results obtained in 1960-61, the present results indicate a drop of 3.4 kilometres, which constitutes a drop of 18 per cent.

5.38 The average speed of diesel or electric trains falls in the range of 17 to 26 kms. per hour. These are very low speeds for these engines, resulting in wholly unnecessary waste of power. On an examination, we found that the Railways have adhered to the old schedules of through goods trains having a booked speed of 35 miles an hour (55 kms) and in some cases even of 30 miles (48 kms) Since the maximum permissible speed of 4-wheelers is 45 miles (67.5 kms) an hour, the scheduled speeds of goods trains should be raised to this level, in particular, of the trains that are hauled by electric or diesel engines. These locomotives are equipped with speedometres and the speed can be well regulated. The maximum permissible speed for bogie stock is 80 Kms.(about 50 miles) an hour. For trains, consisting exclusively of bogie stock, a separate schedule at this speed is possible. We understand that match trucks are allowed to run at this speed. The Railway Board should examine whether ordinary four-wheeler brake vans could also be allowed to run at this speed so that full advantage of dieselisation or electrification and bogie stock may be obtained. Considering that 61% of the traffic is already being hauled by them, and there is likelihood of further increase, the scope for speeding up the movements of the bogie stock should be fully explored. Various steps suggested are:-

i) Through-goods trains should be scheduled at the maximum permissible speed. For this purpose, trial runs should be made on each section prior to the framing of the working time-table and inter-section timings should be based on these results. With an adequate allowance for gradients, restrictions etc. only, could they be realistic.

ii) Separate schedules should be incorporated in the time table for diesel, electric and steam trains having bogie stock exclusively.

iii) Diesel or electric trains should be arranged to run in groups to avoid a clash with steam trains, to the extent practicable.

iv) Precedence to diesel or electric trains over steam should, as far as possible, be arranged at loco requirement stations.

.....v)

v) With a speed of 45 miles an hour, ordinary passenger trains are not likely to overtake goods trains and the restrictive approach of the Section Controllers, which tends to undue caution, lest a passenger train may suffer a few minutes' detention, should be curbed and a more imaginative and purposeful approach promoted.

vi) Elimination of steam traction on mixed routes should be considered on economic grounds.

vii) Trains running over contiguous divisions or railways should be arranged on co-ordinated paths.

viii) Improvement in the standard of maintenance of the rolling stock and track should receive continuous attention.

ix) The question of raising the speed limit of 4-wheeler brake vans to 80 kms. should be considered. This is the only restrictive factor for bogie trains being speeded up to this limit and its elimination will be extremely beneficial, as then even fast passenger trains will not be able to overtake them. Their scheduling, however, will have to be judiciously arranged so as to avoid a clash with slower trains. The Research, Designs & Standards Organisation should keep on examining the possibility of further raising the maximum permissible speed limits so as to bring them in line with the advanced countries where such trains run at a speed of 60 miles an hour or over.

x) Greater emphasis is necessary on the punctual starting of trains on specified schedules, as our study shows that late starts are a frequent occurrence. Hardly 20% trains leave punctually from Tondiarpet and the rest have an average late start of about 2 hours. Similar trends prevail at Secunderabad. The punctual start and running of trains generally should receive greater attention. Likewise, the heavy hold-up of trains outside terminal yards should be rectified. For example, we were told that trains were frequently held up outside Vijayawada for as much as two hours, and trains following suffered detention elsewhere.

xi) Terminal yards should receive trains freely and supervision should be tightened up for attaining this objective. Train Controllers should warn Yard Masters sufficiently in advance of arriving trains so that they may make room for their reception without hold-up.

xii) An important cause for the drop in speeds is the detachment of hot axle or damaged wagons at roadside stations. This is particularly prevalent on the Eastern and South Eastern Railways, which have large-scale mineral loadings. The hot-box problem has been closely studied by a Director of the Railway Board and various improvements have been made to control its incidence. It had previously gone up to 7.3 per million wagon miles and has since come down to about 4. Even so, it is about four times of what it is in the U.S.A. For further improvement, the Railway Board is examining the possibility of changing over from cotton to foam rubber, which is used in the U.S.A. as a padding in axle boxes. Foam rubber, however, is not available indigenously at present and the possibility of its local production is under examination. The Director in the Railway Board, referred to above, had a special organisation under him, consisting of three Deputy Directors and four Inspectors dealing with the hot box problem. These officers periodically visited workshops and sick lines on Railways, to ensure strict compliance with special instructions issued by the Railway Board. This organisation, however, has been disbanded and only two Inspectors are left over to maintain a check. We were informed that after this change, a slight deterioration had been in evidence, which would indicate that the withdrawal of the staff was premature. While the indoor staff consisting of the Deputy Directors, need not be revived, the strength of outdoor Inspectors should be increased for an effective inspection. This, in fact, should constitute a part of the Neutral Control Examination.

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While on this subject we would like to mention the specific problem of damages to bogie stock, which, when it occurs enroute, leads to a detention to the train. We find that the percentage of damaged wagons on account of the cracking of the sole bar, and the breakage of springs and shackles is as high as 7.5%. Some welding defects in the manufacture of the BOX wagons were also reported. Authorities are aware of the problem but the troubles have not been eradicated. All the resources available, including the Research Designs & Standards Organisation, should exercise their minds to put things right.

xiii) Speed is the essence in modern transport. In Western countries by speeding up the goods trains, it has been possible to capture back a considerable volume of traffic from the road. This line of action is strongly commended. When our Railways also work to a higher speed, the question of allowing precedence to passenger trains will not arise, train controlling will become simplified, engine and wagon output will substantially improve and road transport will lose much of its glamour. It should be the Railway's aim to achieve an average speed of 25 to 30 miles an hour for diesel and electric trains which may be further improved, when the maximum permissible speed goes beyond the existing limit of 45 miles. We are aware that a number of super-Express Goods Trains have already been introduced and we hope that they will be further extended.

METRE GAUGE.

5.39 Metre Gauge Railways mostly run through areas with little industrialisation, but which are generally densely populated. The areas in question, are essentially agricultural and are fed with industrial goods from the B.G. areas. These goods have to be transhipped at a numbe of convenient junctions. In the opposite direction agricultural products are offered, which are seasonal. There is, therefore, no proper balancing of traffic at these junctions and the frequent movement of empty wagons on either side is a regular feature. During the seasonal peaks, difficulties are experienced at the transhipment points. In the nature of things, these points are important centres of activity and the efficiency of performance on the Railway is materially influenced by their working. It even reacts on the B.G. The placement of wagons and their handling must be done expeditiously and systematically. Handling contractors should be carefully chosen with due regard to their capability for executing this work efficiently.

5.40 Metre Gauge Railways had their own traditions. Those which formed part of a combined B.G. and M.G. system had the advantage of interchangability of staff and exchange of experience with the Broad Gauge, where operating conditions were rigorous. The North Eastern and the Northeast Frontier Railways, however, have not had this advantage. Their operation, therefore, requires greater attention. Facilities, which were lacking on these Railways, have been substantially improved, particularly at the transhipment points. Much of what we have stated regarding the B.G. equally applies to the M.G. On the North Eastern Railway we found that the goods trains were scheduled at a speed of 20 miles per hour while 30 miles speeds are permissible. This should be looked into as early as possible and scheduled speeds pushed upto the maximum permissible.

5.41 We feel that the metre gauge problem should be viewed from a different standpoint. If the large population of these areas is to be gainfully employed, industrialisation is imperative, We must, therefore, improve the Railway system in these areas so that industrialists may not be inhibited from establishing new industries. In addition, the strategic value of these systems for National Security should also be fully taken note of. The entire Himalayan border is now vulnerable. So is the Rajasthan border with Pakistan. These areas are served by the Metre Gauge and so is the coastal belt in the South.

5.42 The cost of operation per ton kilometre on the M.G. is 5.42 paise against 3.30 paise on the B.G. This disparity in the cost of operation, coupled with the future prospects and the social needs, are pointers in favour of conversion of the M.G. into the B.G. It appears that the Government is also in its favour, as is indicated by the recent statement of the Railway Minister. Some progress in this direction has already been made. Conversion of the Poona-Miraj Section is in hand. We recommend that this process should continue at an accelerated pace on a programmed basis. We further recommend that an annual investment of about Rs.10 crores should be set apart for this purpose so that about 200 kilometres may be converted yearly. An economic appreciation of the conversion of selected sections should be worked out and decisions should be based on overall considerations of economic gain and strategic and social benefit. Judging both from the commercial and strategic angles, we consider that the following sections also merit consideration for conversion to B.G:-

(a) Barauni-Katihar

(b) Barabanki-Gonda-Gorakhpur-Chapra-Barauni.

(c) Bhatinda-Suratgarh-Bikaner.

(d) Cochin-Trivandrum-Tuticorin

(e) Viramgam-Okha.

5.43 Rail traffic to and from the Ports must inevitably keep pace with their development. It is, therefore, necessary that close coordination is maintained between Port and Rail authorities to ensure integrated development. We found that due to lack of facilities in the Madras Port, wagon and engine detentions had been excessive. When the yard in the Port premises is congested, Port authorities should give sufficient notice to the Railways so that the booking may be restricted in time and detentions to trains avoided. The Railway authorities stated that this was a frequent occurrence and although they had previously brought the position to the notice of the Chairman of the Port Trust, the development of rail facilities had not yet materialised. It is indeed unfortunate that they were not thought of in anticipation of the traffic, considering that the export of ore is a pre-planned movement.

5.44. We suggest that the Ministry of Transport, while approving Port development plans, should ensure that the necessary rail facilities have also been provided for. Ports should have adequate marshalling facilities for train formation to conform to the pattern laid down by the Railways. In our opinion wagon holding inside the Port area should not normally exceed 2 to 2.5 times the total incoming and outgoing traffic. The Railways and the Port authorities should maintain close co-ordination and, by appreciating each other's problems, should work in concert so that the traffic may move freely.

CHAPTER VI

CIVIL ENGINEERING

6.01. The Civil Engineering Department on the Railways has to plan, design and execute various civil engineering works, track renewals, strengthening of bridges, construction of new lines, doublings and gauge conversion, and construction of service buildings, staff quarters and other works. It is responsible for the maintenance of the track, bridges and other fixed assets. As on 31.3.67, the fixed assets, like track, bridges and other structures on the Railways, constituted about 50%of the total capital at charge, their value being about Rs.1440 crores. With the growth of the railway system and increase in the magnitude of assets, the expenditure on the repairs and maintenance of these assets has been steadily increasing, as will be seen from the following figures:

Year	Expenditure(in lakhs of repees)
1956-57	3,540
1960-61	4,328
1965-66	6,677
1966-67	7,177
1967-68 (Revised Estimate)	.. 8,086

6.02. In view of this increasing expenditure year by year, it is very necessary that modern techniques and improved methods for maintenance are adopted, not only to effect economy in expenditure but also to maintain the assets in a satisfactory state of repairs, under steadily increasing density of traffic.

........6.03.

6.03. The major expenditure in the Civil Engineering Department is on track maintenance. This expenditure, in addition to the cost of materials, tools and other equipments, consists of the wages paid to the permanent and the temporary gangs and the cost of supervisory staff. While the expenditure on permanent gangs is more or less constant, an analysis of the expenditure, per equated track kilometre, on the temporary gangs of the broad gauge railways, shows the following position:

Railway	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
Central	Rs. 758	Rs. 763	Rs. 821	Rs. 861	Rs. 882	Rs. 537
Eastern	" 642	" 697	" 935	" 866	" 746	" 646
Northern	" 116	" 122	" 189	" 241	" 288	" 218
Southern	" 568	" 396	" 425	" 501	" 640	" 463
Southeastern	" 1033	" 1250	" 1274	" 994	" 844	" 543
South Central	" -	" -	" -	" -	" -	" 810
Western	" 859	" 805	" 612	" 493	" 440	" 372

It will be seen from the above statement that the expenditure on temporary gangs is coming down but it is still comparatively high on certain Railways. This is attributed to the fact that on large sections, where doublings were completed and opened for traffic, there were maintenance problems and for dealing with them, temporary labour had to be put on. It is also understood that sleeper renewals had to be done prematurely on certain sections laid with soft wood sleepers. In order to have better maintenance and also to reduce the expenditure per equated track kilometre it is suggested that the Railways should adopt the steps indicated in the following paragraphs.

6.04. Better track standards have to be adopted now on account of the additional strain on the permanent way, caused by the rapid increase in the density of traffic brought about by the use of the more powerful diesel and electric locomotives and heavier BOX and other types of wagons. Improved signalling and other operational aids have made higher speeds possible. The Railway Board has recently prescribed heavier track standards for trunk routes, namely, 52 kg rails and N+6 standard of sleepers i.e. 1600 sleepers per kilometre, and is even thinking of increasing the standard to 60 kg rails on important sections where the traffic density exceeds 20 gross million tonnes. A comparison of the track standards adopted in foreign Railways with that on the Indian Railways is given below:-

	Maximum speed km/hr	Rail Section kg	Sleepers per km.	Ballast cushion
Germany	160	54	1666	12"
France	160	60	1722	10"
Italy	160	60	1666	12"
Switzerland	140	54	1666	16"

Experiments conducted by the Research, Designs and Standards Organisation, Lucknow, during the past few months, have given valuable data to show that even the 90 lb rails on N+3 sleepers can permit higher speeds, provided certain improvements are effected in the methods of track maintenance. However, the need for a heavier track standard arises from the fact that, unless the weight of rails and the sleeper density corresponds to the increase in the traffic density, the wear and tear of the track will be greater and the renewal cycle will be of shorter duration. Track renewals require speed restrictions which slow down the operation as also the speeds of trains. Therefore, both from the economic and operational points of view, railways should pursue vigorously their programme of track strengthening and track modernisation.

6.05. As regards ballasting, although considerable funds have been allotted and utilised during the Third Five Year Plan, portions of trunk routes are still deficient in respect of the prescribed 10 inches cushion of ballast. In this connection, we find that the Railway Board has recently issued directives to the various zonal railways that the available funds should be utilised for ballasting the trunk routes and main lines in preference to branch lines. This is a move in the right direction and we hope that with the steps taken by the Railway Board to rationalise the specifications for stone ballast, adequate supplies will become available and that ballasting programmes will go ahead quickly and purposefully.

6.06. The type of sleepers has a direct effect not only on the economics of maintenance but also on the modernisation plans for signalling. The present total procurement of wooden, steel, and cast iron sleepers on the Railways is as shown in the statement:-

Statement showing the number of different categories of wooden sleepers, steel trough and cast iron procured by the Indian Railways from the year 1961-62 to 1966-67.

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Year	Species	B.G. Nos.	M.G. Nos.	N.G. Nos.
1961-62	Sal	72,432	2,63,710	1,06,575
	Durable	1,25,631	2,24,754	82,122
	Total	1,98,063	4,88,464	1,88,697
	Non-Durable	12,48,020	10,69,159	1,55,083
	Steel trough	0.81	-	- -
	Cast Iron	45.93*	-	-
1962-63	Sal	72,840	2,25,220	1,45,562
	Durable	1,46,520	3,26,808	1,01,994
	Total	2,19,360	5,52,028	2,47,556
	Non-Durable	13,54,189	13,35,143	2,72,090
	Steel trough	2.08*	-	-
	Cast Iron	48.73*	-	-
1963-64	Sal	46,982	2,88,839	1,19,979
	Durable	2,30,617	5,00,109	1,97,052
	Total	2,77,599	7,88,948	3,17,031
	Non-Durable	12,85,110	17,11,821	3,25,554
	Steel trough	4.21*	-	-
	Cast Iron	53.86*	-	-

1964-65	Sal	85,957	1,99,787	1,54 500
	Durable	2,03,469	3,77,671	2,37,584
	Total	2,89,426	5,77,458	3,92,084
	Non-Durable	10,94,857	16,16,654	3,10,764
	Steel trough	7.43*	-	-
	Cast Iron	58,68[illegible]	-	
1965-66	Sal	83,334	2,73,474	1,08,698
	Durable	2,78681	2,86,728	1,20,974
	Total	3,62,015	5,62,202	2,29,172
	Non-Durable	9,19,051	12,79,019	1,46,463
	Steel trough	6.69*	-	-
	Cast Iron	29,33*	-	-
1966-67	Sal	1,29,135	2,59,781	20,000
	Durable	3,40,948	4,34,557	17,970
	Total	4,70,083	6,94,338	38,027
	Non-Durable	11,46,227	6,79,470	34,950
	Steel trough	5.95*	-	-
	Cast Iron	4.00*	-	-

* in lakhs

It will be seen that the soft wood and cast iron varieties constitute a good percentage of the available sleepers. In recent years, it has been found that the life of even the creosoted soft wood sleepers is only about 8 to 10 years and in some localities even less. The main reason for this is the inadequate availability of creosote, with the result that only 2 to 3 lbs per cft. is being used for sleepers, against 8 to 10 lbs used in foreign countries. Apart from the increased annual cost of service due to such a short life, these frequent renewals disturb the track bed which then takes considerable time to settle down. For this reason it would be advisable to use sleepers which have a minimum life of 20 years. It is therefore suggested that the intake of soft wood sleepers should be restricted only to such quantities as can be properly creosoted.

6.07. CST-9 (cast iron) sleepers have been used widely in the past but experience has shown that these have also to be renewed, on certain heavy density routes, in less than 20 years and, in addition, are not suitable for track circuiting and automatic signalling. Wooden sleepers have been used in the past for these purposes but are in short supply, It is in this context that the manufacture and the use of concrete sleepers assumes the greatest importance, since the only type of sleeper that can replace or make up the shortage of wooden sleepers is the concrete sleeper. Therefore, the Indian Railways have to go in for concrete sleepers in a big way and we suggest that they should draw up a programme for an annual relaying of at least 150 miles with concrete sleepers on the trunk routes, progressively increasing the pace as the availability of concrete sleepers increases. It is understood that after the difficulty about a suitable elastic fastening has been successfully resolved, a stage has now been reached when concrete sleepers can be expected to go into production during the course of the present year, to be laid in the track soon thereafter. We also understand that a great advance has been made by the Research, Designs & Standards Organisation in developing a new type of elastic fastening which would be used not only on concrete sleepers but on other sleepers as well.

6.08 The development of elastic fastenings would also go a long way in improving the maintenance on the railways. It was the lack of these fastenings that restricted the use of long welded rails on the Railways in a big way. Their use will reduce occurrence of track defects, lessen renewal cycles, increase the life of rails, and eventually lead to a reduction in maintenance costs. Therefore, the use of long welded rails and concrete sleepers should provide an ideal solution to many track problems.

6.09. The age old practice on railways has been the manual maintenance of track with beaters and picks, with a section of 3 to 4 miles being attended to by a permanent way gang under a gang mate. The usual practice so far has been the continuous through packing from one end of the gang beat to the other, inter-spaced by the picking-up of slacks, as they develop in the track. Railways are now changing to directed maintenance. In this system, a more

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responsible supervisor takes measurements and directs as to where and to what extent the maintenance has to be undertaken and also supervises the actual work. More sophisticated instruments will be used and a better standard of track maintenance will be ensured. As a further check, periodical testing of the track by track recording cars should be intensified and scientific evaluation made of the results. In foreign countries, where directed maintenance has been put into operation, considerable economies have been effected and, at the same time, improved track conditions achieved. It is understood that the Railway Board has taken steps to introduce directed maintenance, as an experimental measure, on one of their trunk routes. The aim of all track maintenance must be to reduce the frequency of the opening out of the permanent way and to ensure that the track will remain in good condition for at least one year, if not more. To ensure this, maintenance work has to be done either by machines or by measured shovel packing, at least on the trunk routes. Measured shovel packing can be used only for flat bottom sleepers. For the heavy concrete sleepers and the CST-9 sleepers, maintenance by machines seems to be the only answer on important trunk routes, where traffic density is heavy. The railways have made a beginning in regard to both machine maintenance and measured shoval

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packing. Since satisfactory results have been reported, these methods should be extended to cover the important trunk routes, as early as possible.

6.10. A question that arises in connection with the new methods of maintenance is the fear amongst the labour and the organised unions that it may lead to some retrenchment. It is quite possible that the employment potential in the category of gangmen may be somewhat reduced but considering the economies and the increased avenues of promotion that will result for this category of staff, it is to be hoped that there will be no opposition to the introduction of such improved methods.

6.11. The annual expenditure on track renewal and track maintenance on the railways for the years 1962-63 to 1966-67 is given below:-

Crores of Rs.

Year	Track renewal	Track maintenance	Total
1962-63	56.26	22.27	78.53
1963-64	60.12	25.23	85.35
1964-65	59.93	26.91	86.84
1965-66	56.02	28.52	84.54
1966-67	44.42	29.53	74.06

This is a very sizeable expenditure and the utmost care has to be taken in the planning and execution of track renewal works to ensure the best results. For the various arrangements to be made, including the procurement of track materials, machinery, their proper distribution and deployment, the training of the staff and coordination with other departments, it appears essential that there should be a "track cell" attached to each railway to perform these functions effectively. The track cells must make comprehensive plans to make an efficient and regular use of the welding plants and track maintenance machines, ultrasonic flaw detectors, and the available track recording cars. We expect that this step will not only help in improving the standard of track maintenance and repairs but also lead to substantial economies.

6.12. Simultaneously with the adoption of improved methods of track maintenance, railways should also take steps to rehabilitate weak formations on some of the important routes. Considerable sums of money have to be spent every year, particularly during the monsoon periods, in attending to spots where the formation or the subsoil is poor. A Formation Engineering Section is now functioning in the RDSO. The Railways should make full use of this. The R.D.S.O. should also design and develop suitable mechanical equipments for excavating and removing the top soil in bad formations and for replacing the same with good blanketting material. If such equipments are designed, they will enable these operations to be carried out during blocks available between train services and it will facilitate the rehabilitation programme of weak formations on the railways.

CHAPTER - VII

MECHANICAL ENGINEERING-
REPAIR AND MAINTENANCE OF ROLLING STOCK

7.01. The repair and maintenance of rolling stock constitute one of the major heads of revenue expenditure on the Railways. With the progressive increase in the number of locomotives, carriages and wagons on line, this expenditure has been steadily increasing. The following tables give the details of the expenditure incurred during the years 1950-51, 1965-66 and 1966-67 and the holdings at the end of each of these years:

(A) EXPENDITURE

	1950-51	1965-66	1966-67
		(In lakhs of Rs.)	
Maintenance of locomotives.	1166	4363	4639
Maintenance of Carriages and Wagons.	1174	4152	4468
Total	2340	8515	9107

(B) HOLDINGS

		1951	1966	1967
Locomotives				
a) Steam	BG	5,331	6,619	6,425
	MG	2,490	3,600	3,603
b) Diesel	BG	17	520	569
	MG	-	174	174
c) Electric	BG	68	381	402
	MG	4	22	20

.....Carriages

Carriages				
	BG	6,973	12,683	12,793
	MG	6,422	10,003	9,944
Wagons	BG	148,675	257,220	261,334
	MG	42,515	90,960	91,722

7.02. There has been a steady increase in diesel and electric engine holdings. As regards coaching and wagon stock, there will be progressive increase in the predentage of I.C.F. steel coaches and bogie wagons. It is in this context of the changing pattern of holdings and the growing diselisation and electrification that the whole problem of the maintenance and periodical overhaul of rolling stock has to be reviewed so that the work of rolling stock repair may be redistributed more rationally amongst the various workshops.

7.03. The development of workshop facilities on Indian Railways has a historical background. Consequent on the various Railways having been under different managements, they developed their own facilities with the object of achieving self-sufficiency. Every repair shop had its own standard of efficiency and was, more or less, self-contained. The absence of any supporting industry, either in the private or in the public sector, capable of manufacturing and supplying spare parts, had compelled the different Railways to manufacture almost all their requirements in their own workshops. The result is that there are today as many as 30 major and 18 minor mechanical

......workshops

workshops on the Indian Railways for the repair and overhaul of rolling stock. This has led to considerable multiplication of repair arrangements, multiplicity of costly equipment and a diffused stocking of spare parts and materials, which inevitably builds up inventories. This has hampered the rational distribution of work and the introduction of a systematic belt-type repair system in suitable major railway workshops so as to reduce costs and improve productivity. We, therefore, consider that it is high time that workshop re-organization is taken up with sufficient forethought, imagination and co-ordinated planning to obtain optimum results. Unless this problem is examined in the light of the changing requirements, there is a grave danger of capacity remaining idle, ad-hoc use being made of facilities which may not be adequately productive, and the likely accumulation of components and spares for certain classes of locomotives which may soon be eliminated. The problem, therefore, warrants close examination and early action.

7.04. Some of the railways abroad, notably the German and the Japanese, provide ample evidence of having achieved substantial results by adopting improved techniques. The services of Mr. Michael Dohm, Director of Productivity, German Federal Railways, were secured by the Ministry of Railways towards the end of 1958 to examine the working of the repair workshops of the railways. His report contains some very valuable suggestions for effecting substantial economies and increased productivity. The important recommendations contained in the report are:-

- i) Pooling of the workshop resources under centralised control with a view to secure -
  - a) Co-ordinated planning and distribution of work between different workshops on a rationalised basis;
  - b) Development of improved repair techniques;
  - c) Introduction and upkeep of proper regulations;
  - d) Development of a system of cost accounting, which would enable comparison between different workshops and serve as a guide to improved budgeting and planning of production.
- ii) Introduction of anti-corrosion techniques and improved paint-ing of coaches and wagons to retain the paint on the passenger coaches for their life time and on the wagons for 12 to 16 years as on the German railways, against our practice of repainting passenger coaches every 9 to 18 months and wagons every 3 years;
- iii) Chemical treatment of boiler feed water to extend the period between successive overhaul of locomotive boilers from four to six or even upto eight years;

iv) Reduction in the time required for the periodical overhaul of passenger coaches, from 20 days as on Indian Railways to 3 days as on the German Railways.

v) Increase in the mileage run between two successive overhauls of locomotives from 1,20,000 miles to 1,75,000 miles.

vi) The period between two successive periodical overhauls of passenger coaches and wagons to be increased. It is from 2 to 3 years for passenger coaches and 4 years for wagons oh the German railways as compared to 9 to 18 months and 3 years respectively here.

vii) Reclamation of underframes of condemned coaches and wagons whereby considerable savings had been effected on the German railways.

viii) Making a number of technical improvements and adopting methods of savings in the consumption of material upto 30 per cent.

ix) Discontinuance of wooden body coaches and extensive development of welding techniques in the manufacture of coaches and wagons.

.....x)

x) Continuity of tenure of Works Managers and giving them an over-all control of all departments in the workshops. Further highly skilled workers in important jobs should be selected on the basis of performance and aptitudes.

xi) Introduction of proper cost-accounting techniques on the lines of Chittaranjan Locomotives Works and batch costing for similar types of units having similar repair features.

xii) Proforma depreciation and interest on investment in a workshop to be incorporated in the cost data and taken out of the proforma on cost figure to enable the Works Manager to have a complete appreciation of the incidence of costs due to investment in the workshops with a view to keep it down.

xiii) Social welfare expenditure, which constitutes a fairly substantial amount and which varies from shop to shop, to be separately accounted for and incorporated in the "proforma on cost"; and

xiv) The productivity in our repair shops which when compared with the West Germany was only 30%, i.e. 1:3.2, to be boosted to 1:1.4 within a few years, with the implementation of the above recommendations.

7.05. It was also stated by Mr. Dehm that the German Railways would be willing to provide the following facilities, if it was decided to implement these recommendations, namely -

i) Deputation of necessary technical personnel to India whose wages would be paid by the German railways, but the Indian railways would bear their expenses on board and lodging in India.

ii) All the technical data needed for implementation of the recommendations.

iii) Supply, free of charge, of jigs and fixtures which were spare with them but would be useful in India.

7.06. Mr. Dehm's report was considered by the Railway Board in 1960 and the Railway Adviser in London was asked to furnish his assessment after visiting the workshops in Germany and examining their arrangements for repairs to rolling stock and discussing matters with Mr. Dehm. The Railway Adviser supported Mr. Dehm's recommendations in essential respects. However, during that period, the Railway Board was engaged in initiating measures for introducing incentives in repair workshops and, therefore, adequate action was not taken on Mr. Dehm's report. The incentive scheme has pushed up the productivity by about 52 per cent. The output of the repair workshops, as compared with that of the German railways, is now about 46 per cent, i.e. the productivity ratio is now 1:2.2 as against 1:1.4 visualised by Mr. Dehm. The gap is still wide. It is unfortunate that the follow-up action on the recommendations has been delayed so long and that the assistance offered was not availed of. We recommend that this report should be quickly re-examined and implemented to the extent found feasible.

7.07. It is obvious that with the rapid change, that is taking place in the types and holdings of the rolling stock, the railways cannot continue to adhere to the old concept of each zonal railway being self-sufficient in respect of repair facilities needed for them. The modern trend in foreign countries is to delink the operating units from repair workshops and to introduce centralised control over them. We recommend that the railways should also follow this pattern and, to start with, the Kanchrapara and Khargpur workshops should be placed under the control of the General Manager, Chittaranjan Locomotive Works, Chittaranjan and the General Manager, Diesel Locomotive Works, Varanasi, respectively. This will lead to better coordination in planning for the manufacture and procurement of the spares required for the engines, as also a fuller and quicker appreciation of the weaknesses, if any, in the

.....design

design features or the materials used. With the control of the repair shops being placed under an authority independent of the operating units, there will also be an opportunity to ascertain dispassionately any mis-handling of the locomotives or inadequate maintenance while in use on line. This arrangement may also lead to a reduction in the time required for an overhaul, since the stocking of spare equipment like electric motors, diesel engines, wheel-sets and axles, etc. can be rationalised. The central control of the two workshops by an authority different from the operating units, advocated above, should later on be extended to other workshops also. This will give the much needed relief to the Chief Mechanical Engineers, whose attention will have to be increasingly concentrated on the day to day maintenance of the rolling stock and coordination of the traction problems.

7.08. Every effort should be made to maximize the output in those workshops which are set apart and modified and equipped for specific use. These modifications and additional equipment would be fairly expensive and should be fully productive. In this connection, we have to refer to the Parel Loco Workshops, for which there is a scheme to equip it for the overhaul of broad gauge electric and diesel locomotives, which are based on the Central and the

Western Railways. While we agree that this may eventually be necessary, we suggest that the possibility of putting the maximum load on Kanchrapara and Khargpur Workshops should first be fully explored, before the conversion of Parel Workshop is taken up. The decision of the Railway Board to centralise repair to the diesel locomotives of the southern and South Central Railways at the Golden Rock Workshops seems to be a sound one and conforms to the policy we have suggested in earlier paragraphs.

7.09. As mentioned earlier, the holdings of the passenger and the goods stock on the Indian Railways will go on increasing and while some of this increase can be catered for by increasing the productivity of the existing workshops and by reducing the frequency of rolling stock over-hauls eventually and also reducing the time taken in each overhaul, a stage is bound to be reached when additional workshop facilities will be required. This, therefore, should be kept in view and advance planning should be made to make use of suitable steam locomotive workshops, which will be released as a result of dieselisation and electrification for the purpose of doing POH to coaching stock and wagons and thereby the need for putting up new workshops for this purpose may perhaps be obviated. This task should not be left to the Zonal Railways, as they cannot view the problem in a comprehensive and coordinated manner from an all Railway perspective.

.....7.10

7.10 Even after setting apart some of the locomotive shops for conversion into carriage and wagon repair shops, it is likely that some of the smaller units may be found surplus in which case they should be disposed of.

7.11. Another problem that will face the railways is the spare capacity that would be available in the steam locomotive sheds. On the Eastern and South Eastern Railways, where electrification and dieselisation have proceeded substantially, the question of the closure of some of these sheds should be pursued with urgency on a rational basis. Thus the Calcutta area now homes mainly shunting engines and a few goods engines. Some of these sheds are fairly large and expensive to maintain. Many loco sheds are located in close proximity at Sealdah, Chitpur, Naihati Bandel and Howrah. If the Railways adhere to the time-honoured arrangements of self-sufficiency, none of them will be closed, but since economy is so vital, the most economical solution of the problem should be found on an all railway basis. We have been informed that the Eastern Railway is considering the question of closing down the Sealdah Shed and converting it into an EMU maintenance shed. We are, inclined to think that by relocating engines, one or more of these sheds may be closed. We suggest that the Railway Board should give priority to the allocation of diesel shunters in this area to facilitate the early closure of these steam sheds. On the South Eastern Railway also, there is scope for closing down one of the steam sheds either at Tatanagar or at Chakradharpur. The staff strength for the maintenance of Steam Locomotives on the Railways should also be progressively adjusted in relation to the degree of utilisation of those locomotives.

7.12. Linked to this is the question of development of new sheds for handling diesel and electric locomotives. This is a matter which should not be considered individually by Zonal Railways, but should be determined on the basis of the long term perspective of dieselisation and electrification. Even if dieselisation spear-heads electrification on any section, infructuous investment in the development of facilities for the maintenance of diesel locomotives in the interim phase should, as far as possible, be obviated. Electrification on the South Eastern Railway is proceeding from Calcutta side upto Durg and on the Central Railway upto Bhusaval. The logical development will be the extension of electrification between Bhusaval and Durg. This should be kept in mind while planning the diesel shed facilities at Itarsi or elsewhere. The same consideration applies to the Delhi-Agra section. Here Delhi being the hub of traffic, the logical sequel to the extension of electrification upto Delhi should be the electrification of Delhi-Agra-Tundla section also so as to strengthen this important section which would also become an alternative route between Tundla and Delhi. In this context the question, which merits consideration is whether Tughlakabad is the best location for a diesel locomotive shed. Any proposal for new diesel sheds should be viewed with caution. Their equipment is costly and if practices in countries like the U.S.A. are any guide, it should be our endeavour to manage with as few diesel sheds as possible. Here again if every Zonal Railway tries to be selfcontained, it will be very costly.

7.13. In respect of the day-to-day problems of maintenance of the rolling stock on the zonal railways, we suggest that work study teams should be periodically constituted to visit and make a detailed investigation of the work that is being done in the loco sheds and sick lines, with a view to improving the methods and effecting economy and efficiency. They should particularly look into such matters as the quality of the work done, material consumed labour productivity, adequcy of the facilities, measures for bringing down costs and costing arrangements etc.

7.14. There is an element of divided responsibility at present in the matter of maintenance of the electric locomotives and the electrical components of the diesel locomotives. We recommend that all this work should be centralised under on authority, who may be designated as the Chief Traction Engineer. A stage for this re-designation would be reached when the present Chief Mechanical Engineer is relieved of his workshop responsibilities. The Chief Traction Engineer will have Senior Mechanical and Electrical Engineers to assist him. The Chief Electrical Engineer will then only be responsible for the maintenance of fixed assets and the supply and distribution of power. The Chief Traction Engineer may be a Mechanical or an Electrical Engineer.

7.15 It will be necessary to built up a cadre of Traction Engineers with knowledge of both the mechanical and the electrical branches. For this purpose, graduates who are recruited through the Union Public Service Commission, as also the special class apprentices trained in Jamalpur, should be given an intensive course, during their period of training, in the maintenance of all the three types of traction, namely steam, diesel and electric.

7.16 In regard to cost accounting, we find that the existing arrangements in the workshops are not satisfactory for cost control, comparison of costs between different workshops and for serving as guides to the Works Managers in keeping down the costs. A comparison of the time factor and production costs between various workshops will also be an effective means of introducing improvements and stimulating a healthy competition amongst the workshops. This can be achieved only if the costing techniques in vogue in the workshops are improved and are brought on a par with the procedure followed in the Chittaranjan Locomotive Works. Proforma depreciation and assessed dividend liability should be incorporated in the on-cost figure and not merely shown in the 'proforma on cost' figure. The variable element and fixed cost should be separately shown in the statistics. With the rationalisation in the work, which we have proposed, it should be a simple matter to introduce batch-costing for identical types. If necessary, sampling techniques, which are fairly well recognised, may be adopted for this purpose. In the case of locomotives and coaches, costing should be done for series of assemblies involving similar repair operations namely, under-gears, electrical components, wheels and axles, brasses, boilers, tenders, coach bodies etc. We would leave this sub-division to the judgment of the Railway Board to accord with practical considerations. We recognise that in an environment of continuous variation of material prices and wages, monetary costing loses much of its significance, unless variations due to these factors are precisely assessed and allowed for so as to enable a correct comparison to be made with a fixed norm. This, however, seems difficult until a more stable position is reached. In these circumstances, costing in physical terms would be more meaningful and we, therefore, suggest that in addition to monetary costs, man-hours utilised per unit of output and the cost of materials used, should be shown in the statistics. Comparative figures of total output should be detailed including value of the components turned out in a workshop. The total cost per man hour, as an overall index, will also be valuable.

CHAPTER VIII

SIGNALLING AND TELECOMMUNICATION

8.01 The Railway Accidents Committee in item 84 of Chapter XI - Part II of their report had made the following recommendations:-

> "We consider the adoption of modern electrical signalling in India essential and inescapable in the interests of safety and efficiency, and make the following suggestion.-
>
> xx xx xx
>
> Where the anticipated increase in the intensity of train services on a double line section is proposed to be met by the provision of additional lines, the comparative advantages of providing automati block signalling on existing lines should be considered in the light of its providing a higher standard of safety and capacity.
>
> At large stations and yards, where the operation of points and signals from a number of cabins involves considerable co-ordination, the provision of route relay interlocking should be considered as an essential measure".(Page 253)

The World Bank Team on coal transport had also emphasised the necessity of modernisation of signalling. The developments, which have taken place since the Railway Accidents Committee's report, are mentioned in Appendix VIII/8.

8.02 With the steady increase in the number of sections that are being dieselised and electrified, the provision of automatic signalling on such sections will result in improved operation by avoiding delays in train passing work due to lapses in the human element. In the advanced countries, modernisation of signalling and telecommunication has served as an instrument for increasing safety, enhancing speeds, and providing greater flexibility and increasing line capacity.

8.03 We, therefore, strongly recommend that Indian Railways should embark upon a long term integrated plan for the modernisation of their signalling. This seems to have been impeded by two basic factors namely,

a) the deficiency of wooden sleepers and the delay in the development of a substitute - the reinforced cement concrete sleeper and its fittings, and

b) the non-availability of adequate foreign exchange to meet the cost of equipment and the fee for securing the circuit diagrams for installing the equipment.

8.04 We have now been informed by the Railway Board that arrangements for the indigenous manufacture of reinforced cement concrete sleepers and fittings have been finalised. With a view to examining the possibility of the indigenous manufacture of the electronic equipment in question, we visited the works of Messrs Saxby & Farmer in Calcutta, and Siemens in Bombay - the two well recognised manufacturers of signalling equipment in the country. We also visited the Indian Telephone Industries at Bangalore, which also manufactures electronic relays. Its Managing Director gave us the impression that it could take up some of the manufacturing work in which the Study Team was interested; but later the Ministry of Communications expressed its inability to take it up, as telecommunication equipment would keep it fully occupied. M/s. Saxby & Farmer have a unit where some simple electronic equipment is being

......manufactured.

manufactured. They, however, have plans for its expansion, if they were given a reasonable hope of securing continuing orders. They have given us an approximate estimate of their foreign exchange requirements, for the purchase of raw materials and this varies from 5 to 10% of the cost of different equipments, which are not available indigenously. All the manufacturing work will be undertaken at their works and the technical 'know-how' will be secured from their principals in the United Kingdom. M/s. Siemens have not yet set up a manufacturing unit for this purpose, but are prepared to do so, provided there is a long term understanding for the purchase of their equipment. We are, therefore, satisfied that the indigenous manufacture of modern signalling equipment in the country is practicable, and suggest that the Railway Board should make very early arrangements for its manufacture. The necessary foreign exchange for the purchase of imported raw materials should be provided.

8.05 We have been informed by the Research, Designs & Standards Organisation that it will be able to provide the circuit diagrams for the installation of the equipment. Technology in this sphere is continuously advancing, and while, to some extent, dependence on the manufacturing firms in keeping track of this advancement cannot be avoided, the Research, Designs & Standards Organisation should itself take effective steps to develop research with a view to evolving an improved design for the signalling equipment needed by the Railways. We have been informed that proto-types could be manufactured in the Railways Signalling Workshops at Secunderabad which should be suitably equipped for this purpose. We, however, agree that the duplication of facilities is not desirable and that the manufacturing task may be left to the established and reputed firms, if a suitable agreement can be reached with them.

8.06 Having examined the possibility of the indigenous manufacture of the electronic equipment, we have to evolve an annual plan for the modernisation of signalling. We suggest that the following plan of works should be carried out annually:

i) 150 to 200 kms of automatic signalling.

ii) Panel interlocking at about 20 roadside stations, where automatic signalling has been or is being introduced.

iii) Route-relay interlocking at 2 or 3 large stations.

iv) Mechanisation of one large marshalling yard.

v) Progressive change over to electric power signals at stations, where track circuiting work has been or is being done.

These suggestions are in addition to the improvements which may be needed in other directions.

8.07 The Railway Accidents Committee had recommended the installation of automatic train control. We are glad to learn that automatic train control equipment is being installed on the Sealdah-Burdwan and Gaya-Moghalsarai sections of the Eastern Railway. With the increasing density of traffic and speed of trains, it is very necessary to have this safety device installed on important sections where traffic density is heavy and speeds are high.

8.08 We suggest that the electrical control arrangements should be devised for the operation of out-lying points in colliery sidings so as to eliminate the existing time consuming arrangements for their manual operation by the use of keys. The present manual system is out-moded and delays pilot work, in addition to being expensive and should, therefore, be replaced by a modern electric control system which can be operated economically.

8.09 We wish also to emphasise the importance of the efficient maintenance of highly sophisticated signalling equipments. The Railways should, therefore, embark quickly upon an intensive programme for the training of the existing staff so that, as and when the new equipments are to be installed, they may have the requsite know-how and ability to instal and maintain the equipment efficiently.

8.10 An efficient communication system is also an essential pre-requisite to the proper regulation and control of movement of traffic. In this connection the Estimate Committee of Parliament in their thirty third report had remarked as follows:

> "The Committee are of the opinion that the present means of communications (telegraph, telephone, teleprinters etc) on Indian Railways are inadequate and in many cases outmoded. They feel that if proper and adequate means of communications are provided on Railways, there will be great improvement in the operating position and the movement of traffic will be considerably accelerated".

The Railways have now an extensive network of overhead communications for administrative and operational purposes and teleprinter services have also been installed between certain important centres, but they constantly fail largely due to the theft of copper wires all over the country. The State Police and the Railway Protection force have woefully failed in arresting this nefarious activity, which completely nullifies the efficient control of movements. When the communications are restored, it takes hours to sort out the position and to restore normalcy. It seems obvious that this matter has not been pursued with sufficient vigour and determination. Surprise patrolling by road in vulnerable areas may yield useful results. Although the total loss of copper wire from communication lines in 1966-67 amounted to Rs.64.2 lakhs, yet the loss to the Railways by way of train detention is many times more.

8.11 We understand it has been agreed in principle that the Railways should take over their own communication lines from the Posts & Telegraph Department. Joint discussions are now proceeding as to the price of the equipment. We really cannot appreciate why the pricing question should hold up the transfer between two departments of the Government of India. Pricing should not be such a complicated affair either. There should be no bargaining and all that need be done is to determine the book value of the

...... equipment

equipment jointly by the respective financial authorities. If the two departments cannot come to terms, the obvious course is to ask the Cabinet to decide. But this should not hold up the transfer, once the other practical problems have been settled, which we understand has already been done.

8.12 The railways contemplate replacing the copper wires by A.C.S.R. conductors (aluminium-conductor steel reinforced) both for saving foreign exchange and for preventing thefts. We suggest that the Railways should undertake a crash programme of replacement so that they may be relieved of the problems created by thefts at the earliest. On the main lines of the Eastern Railway, we understand that underground cabling has been done by the P&T Department, which is less liable to failures or outside interference.

8.13 All modern managements depend on quick dissemination of information and prompt and timely flow of data for decision-making, which is nowhere so vital as on the railways, where, for efficient operation and control, a fool-proof tele-communication system is essential. This can be ensured only by an extensive microwave network connecting the railway headquarters with the divisional headquarters and principal operation points, yards, etc. The Railways have now launched a scheme for having a microwave network covering about six thousand route kilometres of railway lines. The installation on about

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4000 route kms has been completed and the balance is likely to be completed by March,1969. This installation will link up some of the important strategic points on the trunk routes of the railways. Another 6000 to 8000 route kms of microwave installation should reasonably fortify the main trunk routes with a reliable communication system which,we suggest, should be programmed for execution during the ensuing plan.

8.14 With the completion of an efficient and dependable telecommunication system, it should be possible for railways to minimise some of the present day difficulties, like tracing and linking up unconnected and missing wagons, abnormal delays en-route etc. Railways are already installing computers and it should be possible to work out suitable programmes for wagon allotment, movement control and the transfer of wagons. The Divisional Operating Superintendent of a Division should be able to get advance information of the number of wagons that flow into his Division, point-wise and commodity wise, within the ensuing 24 hours. With a better telecommunication system and wagon control programme, quicker transit and better service to the customers will be possible.

8.15 We wish to reiterate the importance of an efficient communication system for the Railways and we hope that limitations of finance will not stand in the way and that

CHAPTER - IX

RAILWAY SAFETY

9.01 The one subject on which the travelling public are most concerned is railway safety. We, therefore, feel it necessary to comment on it briefly. We are aware that a high-powered committee under the Chairmanship of Justice Wanchoo is going into this. However, in view of the Railway Ministr's announcement on the floor of the House, (portions of his speech are extracted below), we are touching on certain aspects of this subject.—

> ".....Therefore, a high level committee has been constituted to go into the series of accidents that have taken place in recent times and to suggest as to how best we can prevent the occurrence of such accidents.
>
> ......There are two sets of studies. There is the Administrative Reforms Commission. Dr. Kunzru himself is the most competent man to see to what extent the railways have failed to implement the recommendations and to what extent they have implemented. These matters are now under study."

9.02 As an outcome of the discussion, that took place in Parliament, following three serious accidents on Railways during October and November, 1961, the Government appointed the Kunzru Committee to consider the question of train accidents on the Railways and to suggest measures for further minimising them. The Committee, in its Report of November, 1963, made exhaustive and detailed recommendations, which can be classified broadly into the following groups:— ....Human

Human....

i)	Human factor.	.. 66	Recommendations
ii)	Engineering and Safety aids.	..128	"
iii)	Research	.. 41	"
iv)	Safety Organization.	.. 28	"
v)	Railway Inspectorate.	.. 22	"
vi)	Problems of individual railways and particular accidents.	.. 92	"
	Total	377	

9.03 We have been informed by the Railway Board that the railways have so far implemented 309 recommendations, of which action on 85 is of a continuing nature. There are 44 recommendations which are under implementation and of these the more important are the following:-

Item No.	Recommendation in brief.	Present position
53(i) Pt.I	Provision of speedometers and speed recorders on the passenger trains and speedometers on goods trains.	As regards passenger trains, this recommendation has been implemented on all the railways, except the Northern where a small number of locomotives are still to be fitted up. The Railways have taken action for procuring additional speed indicators for locomotives operating fast goods services.

57(i)Pt.I .....

57(i) Pt.I	Provision of road signs and signals at approaches to all level crossings, by road authorities.	The provision of road signs at the approaches to level crossings is the responsibility of the road authorities. Railway Ministry have requested State Governments to provide road signs at the approaches to A, B and C class level crossings. In the meanwhile, Railways have provided road signs ("Stop" boards) at the approaches to all unmanned level crossings.
57(ii) Pt.I	Provision of undulations or bumps by road authorities at approaches to unmanned level crossings.	The Railway Ministry have requested the State Governments to implement the Railway Accident Committee's recommendations, by providing undulations or bumps at the approaches to unmanned level crossings. Some of the States have not agreed to the proposal. The matter is under correspondence with the Ministry of Transport.
34(iii) t.II	Adequate capacity and equipment should be made available for subjecting springs to cent per cent scrag tests.	While adequate equipment for cent per cent scrag testing has been provided on the Northern Railway, the Northeast Frontier, South Central and Western Railways, selective scragging of springs is being done on the remaining Railways. It is understood that additional equipment for cent per cent scrag testing on the remaining Railways is under manufacture.
21 .II	Provision of improved type of special test cars on each Railway.	The Railway Board have taken a decision to manufacture track recording cars with indigenous material. One such car has been manufactured and is undergoing trials. Further manufacture will be programmed after the trials are completed.
(i) .II	Provision of track circuiting extensively. The difficulty due to lack of wooden or concrete sleepers should be overcome by research and experiment.	It is understood that provision of track circuiting is being done on a programmed basis on the Railways. 491 stations have been provided with track circuiting after 31.3.1964. Work at 248 stations is now in progress.

85 Pt.II.....

85 Pt.II	Introduction of automatic train control on certain suburban and selected trunk routes.	The work of providing automatic train control on Howrah-Burdwan, Gaya-Moghalsarai and Burdwan-Gaya sections has been programmed, and the necessary equipment is being ordered.

9.04 The Railway Board have not accepted 22 recommendations and two are still under consideration. These are given in Annexure IX/9. The recommendations which have not been accepted may be broadly classified under the following heads:-

i) Four recommendations pertaining to the recruitment of staff and percentage of direct recruits in certain categories;

ii) Four recommendations pertaining to Mechanical branch on items like journals running hot, manufacture of non-ferrous items, preliminary trials of engines and setting up of central workshops;

iii) Four recommendations concerning enquiries and enquiry reports;

iv) Two recommendations concerning the Research Organization;

v) One recommendation for adoption of an abbreviated procedure for imposition of penalty of reduction in rank or grade

vi) One recommendation to have surprise tests on observance of signals;

vii) Five recommendations of a general nature—

  a) one regarding the Efficiency Bureau,
  b) one regarding the introduction of divisionalisation on the North Eastern and Northeast Frontier Railways,
  c) one on technical education,
  d) one on the working of the Railway Inspectorate, and
  e) one about the undesirability of senior supervisors being permitted to become members of the Staff Unio

viii) One recommendation for the Railway Board, as the competent authority to certify fitness of new types of locomotives and rolling stock.

From the reasons, given by the Railway Ministry, for not accepting these recommendations, vide Annexure IX/9, it can be seen that certain administrative, technical and legal considerations have deterred the

Railway Board from implementing these recommendations. Considering the paramount need for improving the discipline on the Railways, it is felt that recommendations contained in items 50, 62 and 65 are very vital and we suggest that the Railway Board should re-examine them once again for implementation.

9.05 The Railway Accidents Committee, after a careful analysis of the causes of various accidents that had taken place during the years prior to the report, had come to the conclusion that a majority of the accidents were due to human failure of some kind or other. The Committee, therefore, attached great importance to the careful recruitment, training of the staff and a continuous safety drive to educate and remind the railway staff of all categories of the rules and the implications of disregarding them. In this context, we have examined the progress made by the Railway Ministry in giving refresher courses to the various categories of the staff. The position that obtained in 1961-62 as compared with the position during 1966 and 1967, is given in the following table —

Percentage of staff who actually attended the Refresher Courses out of those who were due to attend.

	1961-62	1966	1967
Station Masters and Asstt. Station Masters.	21.7	68.0	62.8
Levermen	31.5	57.5	58.8
Cabinmen/ Switchmen	20.9	75.6	64.5
Drivers/ Motormen	52.7	80.9	78.3

While there has been an improvement since the Railway Accidents Committee's report we feel that the railways should take vigorous steps to improve the percentage still further.

9.06 We also find that in accordance with the Railway Accidents Committee's recommendations, a Psycho-technical cell has been opened in the Railway Board's office. We suggest that this Cell should make a study of the personality characteristics of drivers and station masters, who have been involved in collisions and see whether any pattern emerges in regard to their recruitment, their age groups or their educational standard, which may point to the need for remedial steps.

9.07 We are disappointed to find that a spate of accidents, particularly collisions, involving human life, has taken place of late, i.e. during the period from January to May, 1968, when there were as many as 48 collisions as against 17 collisions during the corresponding period of last year. Collisions are almost entirely caused by failure of the railway staff to observe the prescribed procedures/precautions in working. We have gone through some of the enquiry reports on the recent collisions and we find that even on sections, where track circuiting or automatic signalling has been provided, collisions have taken place because of the failure of the human element. The Railway Accident Committee, while commenting on the need for safety devices, had remarked as follows:-

> "Nor can mechanical devices or aids, however, elaborate, ever be a complete proof against human mistakes. Indeed, mechanical and electrical safety aids can sometimes defeat their own object by inducing too great a reliance on them at the expense of human vigilance. It has, therefore, to be constantly borne in mind that the safety of the travelling public depends, in the last analysis, upon the efficiency and vigilance of the railway staff." (Para 70 page 83).

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This shows the paramount need for the staff to be vigilant and for the continuance of the safety drive in all directions and for the supervisory staff and officers keeping personal contacts with the staff, who operate train services.

9.08 One of the reasons for the incidence of human lapses leading to accidents is the standard of discipline at various levels. Discipline at all levels has an important bearing on the mental attitude of the people, who have to act according to set rules and procedures. This has been commented upon in the report of the Committee of Inquiry on the collision at Yalvigi station on the Southern Railway on 19-3-1968. The relevant portions are given below:-

> "We have gone into the evolution of the Discipline and Appeal Rules on the Railways over the past two decades and find that instead of a procedure providing for a simple and quick method of enforcing discipline, a complicated and time consuming process has developed. The inquiry procedure in cases relating to imposition of major penalties has become involved and the pre-inquiry formalities have also become cumbersome and cause inordinate delays. In regard to cases of accidents, the inquiry held to determine the causes and staff responsible, if any, was formerly considered sufficient for purposes of initiating disciplinary action. A major change introduced has been the need for a second disciplinary inquiry before the second opportunity is given to show cause against imposition of a major penalty."

The Railway Accidents Committee had also commented on this aspect in great detail and has made in para 105 of their report certain suggestions for abbreviated procedure for the imposition of major penalties. We recommend that this should be considered by the Railway Ministry and suitable steps taken to implement these recommendations. In this connection attention is drawn to the recommendation made by the Commission of Enquiry into the Yalvigi accident that the categories of staff connected with the safe running of trains should be excluded from the purview of Article 311 of the Constitution. It has been recommended in this report that the railway employees connected with the safe running of trains should be held to be on a par with civilians who hold posts connected with the Defence Services. Therefore, in the interest of the safety of the travelling public, it will be an appropriate step to exclude such staff from the purview of Article 311 of the Constitution so that disciplinary action can be swift in the case of those who cause accidents and loss of human life. This cannot be considered to be against the principles of democracy. In a democratic country like Canada, employees who cause accidents or who commit offences like insubordination, drunkenness, on or off duty, or use intoxicants, while on duty, are subject to penalty of dismissal. On the Canadian Pacific System, they operate "Brown System of Discipline". A copy of the memorandum on the system is given in Annexure IX/10. We recommend a similar system for adoption on the Indian Railways.

9.09 We have already touched upon in earlier chapters (II and IV) some of the factors, which lead to a fall in discipline amongst the staff. It is worthwhile repeating here a few aspects, which are relevant in this context and to stress the need for appropriate corrective action. Apart from the present day economic pressures, like difficulties in getting essential supplies and at reasonable prices, the atmosphere of general indiscipline and dis-respect for authority prevailing all over the country and the demonstrations indulged in by all classes of people

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unhealthy influence on the railway workers in their approach to their daily work. Laxity, indifference and defiance of authority are creeping in. Such an environment inevitably has its impact on the psychology of the railwaymen. How far this tends to develop slackness or lack of vigilance is difficult to say but a prevalent atmosphere of persistent staff indiscipline is apt to have some unhealthy influence on the staff. A feeling is prevalent among the staff that even if they do not work satisfactorily, they can get away with it either lightly or altogether by taking advantage of dilatory procedures or by bringing in outside influence. The supervisory staff, both senior and junior, are apt to overlook minor irregularities, which again has a cumulative effect on the make up of the workers. It is not suggested that the recent spate of accidents is entirely due to such environmental influences, but we cannot completely rule out this factor from our consideration.

9.10 Another important adverse factor in enforcing discipline is the ease with which representations are made on individual staff matters to the Minister which are supported by Members of Parliament and other influential persons. This has led to a feeling amongst the staff that they can circumvent the authority of their immediate superiors and get the order revised or cancelled by moving the higher authorities. This feeling is now widely prevalent amongst the staff, and this has got its inevitable effect on discipline and respect for authority. This aspect has been dealt with in detail by the Railway Accidents Committee, and extracts from that report have been quoted by us earlier in para 2.18. The position has not improved since 1963 and, in fact, interference in individual cases has become more frequent than before. It has to be impressed on the staff and officers that they should adopt constitutional methods to get their grievances redressed and not try to enlist the support of an outside agency for this purpose.

9.11 We also wish to refer to the existence of a multiplicity of unions on the railways, each representing a particular category under the presidentship of a Member of Parliament or some other important person. Although they are not recognised, they still enter into correspondence with the Railway Administrations, mostly taking up issues concerning individual members of the staff. The existence of a multiplicity of rival unions in the Railways, with supervisory and other staff drawn into their fold as office bearers creates unhealthy tendencies amongst the office bearers and active workers of the unions. In addition these activities at times make the junior officers shirk from taking disciplinary measures against the delinquent staff. The Accident Enquiry Committee had recommended that senior supervisors should be debarred from becoming office bearers of the unions, so long as there is a multiplicity of unions on the Railways. We have to stress this again in the interest of discipline in the Railways. We also urge the unions not to take up an agitational approach in staff matters including individual cases, but settle them with the Administration through the constitutional means available to them, 9.12 Another question which we have touched upon earlier in para 4.34 is the need for giving incentives to loyal railway workers by facilitating employment to their sons and awarding them merit marks on the basis of the Brown System of Discipline in vogue on the Canadian Pacific System, and whic we have referred to earlier in this Chapter and Chapter IV.

CHAPTER X

RESEARCH, DESIGNS & STANDARDS ORGANISATION

10.01 The future of the Indian Railways lies in modernisation and introduction of improved techniques for efficient operation and for greater safety. Phenomenal advances have been made in the foreign countries in various fields of operation, design of rolling stock, and maintenance techniques, which have resulted in economy and increased safety. It is the research organisations on these railways, which have made these improvements possible through basic research and by developing new techniques. The Research, Designs & Standards Organisation of the Indian Railways which will hereafter be referred to as R.D.S.O.. has, therefore, a very important part to play and this should be fully appreciated by the Government. The Railway Accidents Committee, 1962, had examined the development of research in great detail and had made a number of valuable suggestions. It expressed a keen sense of disappointment at the very slow progress of research and commented upon the inadequacy of the organisation, in regard to both its equipment and its personnel, and also in respect of the limited range of its work, against the vast background of the requirements of a large organisation like the Railways. It had made the following observations for the guidance of the Railway Board:-

(i) The basic requisite for the effective functioning of this organisation, is its adequate expansion and development, both in equipment and in personnel,

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(ii) No research should be undertaken unless the organisation is fully equipped to complete it successfully,

(iii) Research items should be taken to successful conclusions and not left incomplete over a large number of years,

iv) All research items, including those which are partly undertaken by the Railway Administrations, should be strictly under the control of this organisation,

v) The laboratory results of research should not be applied to the railways without adequate field trials under the control of research organisation,

vi) A realistic assessment and evaluation of the results achieved by the research activities of the Research, Designs & Standards Organisation, should be made.

vii) To start with, the railways should initially aim at spending on Research, Designs & Standards Organisation at least 1 per cent of their total working expenses.

10.02 Recognising the importance of this subject, the Study Team paid visits to the Research, Designs & Standards Organisation at Lucknow, examined its organisation, and reviewed the progress made since the Report of the Railway Accidents Committee. The functions of the R.D.S.O. have since been enlarged and diversified on the lines suggested by the Railway Accidents Committee. The organisation is headed by the Director General, who is in the same grade as that of a General Manager of a zonal railway. It has 10 Directorates at present, of which 9 deal with specific branches of railway equipment and the tenth with architecture. The Research Directorate conducts research in 6 wings. Inspection Units have also been set up to exercise an independent check on the qua

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of work in the Railways Production Units. The inspection by the R.D.S.O. also extends to the electrical equipment supplied by the Heavy Electricals Ltd.,Bhopal, for the locomotives, and to the wagons turned out in the Private Sector. Such Inspection Units in the R.D.S.O. establish the necessary link between the designers and the producers, and this will ensure quality and manufacture according to the specifications prescribed by the designers and, at the same time, if any d raw back is noticed during inspection, it sends back the problems to the R.D.S.O. for solution.

10.03 The R.D.S.O. has to function as technical advisers to the Railways and thus its activities span the entire field of railway engineering. It is also responsible for the preparation of all standard designs and specifications for the railways. The organisation also renders advice on all technical aspects relating to the safety of operation. It is also an important function of the R.D.S.O. to develop designs of railway equipment with the maximum indigenous content.

10.04 The Railway Board has set up the Central Board of Railway Research (C.B.R.R.) - presided over by the Chairman, Railway Board, and comprising of a number of top level scientists and directors of some of the National Research Laboratories and representatives of locomotives and wagon manufacturers and steel industry. Members of the Railway Board and the Director General, R.D.S.O. are also members of the Central Board of Railway

Research. The Director (Research), R.D.S.O. is the Member Secretary. The main aim in setting up this Board was to produce greater efficiency in railway research by allocation of priorities for research problems, by co-ordination with other Research Institutes to avoid duplication and to benefit by their work, and finally to bring the knowledge of the highest body of available research workers to bear on the solution of urgent railway technical problems. It has formed sub-committees dealing with Civil Engineering, Mechanical Engineering, Electrical Engineering, Signalling & Tele-communications, and Metallurgical & Chemical research. Originally the Central Board of Railway Research was to meet twice in a year and its sub-committees met just prior to the main committee. However, for some time the C.B.R.R. has been meeting only once a year. We have seen the minutes of some of its meetings. We are constrained to remark that there has been a gradual falling off in the attendance of outside members and often only representatives, who are not high up in the profession are sent. On the whole the deliberations of the C.B.R.R. lead us to suggest that its working and that of its sub-committees should be revitalised. While the programme of research and its priorities should be laid down by the Railway Board and the C.B.R.R., set up for the purpose, the Director General, R.D.S.O. should not be restrained from undertaking any work on his own. In the process of research

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and development, fresh ideas may strike, which may necessitate the pursuing of a new line of work. Then again, developments abroad or thinking in the organisation itself might create avenues for exploration. In a creative work, initiative should not be damped and no procedural difficulties should hamper the freedom of this organisation to pursue fresh lines of research.

10.05 A number of broad based Standards Committees pertaining to each branch of railway technology have been constituted to assist the R.D.S.O. in its research and standardization activities. These committees have, as their members, the heads of the respective engineering departments of each of the zonal railways with the R.D.S.O. functioning as the Secretariat; thus the benefit of service experience is made available to this organisation. The functions of the Committee are:-

i) To discuss various technical problems and suggest trials before standardization is effected,

ii) To consider and recommend standard designs and specifications for equipment and structures in use in various technical wings of th railways,

iii) To standardize specifications and codes of practices for technical wings of the railways; and

iv) To suggest lines on which further research should be conducted for the evolution of improved designs.

The following Standards Committees are currently functioning on the railways, pertaining to various technical branches of railways:-

a) Track Standards Committee,
b) Bridges & Structures Standards Committee,
c) Locomotive Standards Committee,
d) Carriage & Wagon Standards Committee
e) Signal Standards Committee,
f) Tele-communications Standards Committee,
g) Electrical Standards Committee,
h) Joint Traction Standards Committee,
i) Indian Railways Chemists & Metallurgists Committee,
j) Standing Corrosion Committee, and
k) Water Treatment Committee.

10.06 It is necessary that the work of the R.D.S.O. as a whole should be periodically reviewed by the Railway Board in great detail. We found that recently the whole Board visited the R.D.S.O. and spent considerable time in assessing the work and giving guidance on the spot. The whole Board should also formally meet the Director General in Delhi once a year to discuss his administrative, technical, budgetary and financial problems. We also attach considerable importance to the recommendation made by the Railway Accidents Committee that a special review in popular language of the activities of the Research, Designs and Standards Organisation for a period of three years should be submitted to the Central Board of Railway Research, which would supplement it with its comments and forward it to the Railway Board to be placed before the Parliament. We have been disappointed to note that the first report to Parliament did not contain any worth-while evaluation of the research activities of the R.D.S.O., made by the Central Board of Railway Research or by the Railway Board. We strongly recommend that a suitable evaluation technique should be developed and the C.B.R.R. should comment on the activities of the R.D.S.O. and its evaluation. This review should then be placed before Parliament, once in three years, with the Railway Board's comments.

10.07 We note that in the light of the observations made by the Railway Accidents Committee, enunciated in paragraph 10.01, certain steps have been taken by the R.D.S.O. and that the position in respect of the organisational strength has improved. The staff strength and the annual expenditure for the years 1962 and 1968 are given below:-

ar	No. of gazetted officers		Total	Class III No. of staff		Total	Class IV	Grand Total	Annual exp. for the year.
	Tech.	Non-Tech.		Tech.	Non-tech.				
1.62	102	8	110	768	287	1055	347	1512	63.82 lakhs
1.68	204	15	219	1461	449	1910	587	2716	175.00

The budgeted expenditure for the year 1968-69 is Rs.209 lakhs. Of the total allotment, about 53 per cent. of the expenditure is incurred on research work.

10.08 We have noted that in some of the advanced countries, of the staff employed on research, a few have doctorates in Mathematics, Physics and Chemistry. The absence of such scientists in the R.D.S.O. is a handicap to the research work. It would be advantageous if a highly qualified Mathematician, an Industrial Chemist, and a Physicist who is a specialist in Electronics, are appointed in this organisation as early as possible. They should be experts in their respective fields. With their knowledge and experience

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in fundamental research, they will supplement the applied research work undertaken by the railway engineers. As the activities are further enlarged, the Railway Board should unhesitatingly increase the strength of technical officials as required. In respect of non-technical personnel, the Railway Board should examine whether there is need for such a large number in the R.D.S.O. as at present.

10.09 In the matter of equipment, the R.D.S.O. does not compare well with the institutions abroad. It should, therefore, take steps to build up the necessary equipment for the promotion of research, particularly on the signalling and tele-communication side. The need is evident for building up the necessary equipment and some of the important items, which we were told during our discussions with the Director General are required, are given in Annexure X/II.

10.10 It can be said, in general terms, that the R.D.S.O. has made noticeable progress in the past four years in certain spheres, but very much more has to be achieved before the required service can be rendered to the railways. For this, the R.D.S.O. has to develop further its laboratories and equipment, and it should build up its cadre of expert research personnel. Unless this is done, technical development in various fields on the railways will be handicapped, particularly, when very little railway expertise is available in the country outside the railways.

10.11 We like to emphasise certain lines on which the attention of the R.D.S.O. should be directed;

(i) After a careful study of the optimum haulage capacity, required on different sections of the railways, the R.D.S.O. should evolve designs of locomotives, which, either singly or in combination with an assisting unit, could obviate, to a large extent, the necessity of load adjustments at intermediate points. Maximum interchangeability should be aimed at and multiplicity of designs avoided.

(ii) The Study Team has noted the improvements made in the vacuum brake; nevertheless it considers that it would not be possible to haul substantially heavier trains than at present without the use of the air brake. The R.D.S.O. should urgently take up the work of designing of a cheap, efficient and wholly indigenous air brake to suit the new requirements.

(iii) The Signalling and Tele-communication Directorate has been lagging behind, while the need for rapid development in this field is urgent and of considerable value for improving operation, the standard of safety, and line capacity, as forcefully brought out by the Railway Accidents Committee. Although a number of investigations are in progress, much is still in an experimental stage and has not even reached the stage of field trials. Energetic steps should be taken to accelerate the pace of development in this section. Concentration on a few items at a time, rather than taking up too many items, would be the more appropriate strategy.

(iv) Urgent measures should be taken to develop indigenous route relay equipment, automatic train control equipment and electronic track circuits. We find that some progress has been made in the development of certain modern systems for the safety of train operation, like the electronic last vehicle check device and electronic

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track circuits. It is, however, necessary that proto-types should be developed as early as possible and trials made in the field. The development of an automatic signal barrier, about which special mention was made in the Railway Accidents Committee's report, has not yet materialised and should be taken up immediately.

(v) In the sphere of import substitution, there is still considerable scope for development. The import content in the diesel locomotives and electric locomotives is still high. It should, therefore, be one of the important tasks of the R.D.S.O. to undertake this work energetically.

(vi) We further suggest that the Civil Engineering wing may be bifurcated into two, namely the Track Research and the Bridge Research wings, so that more intensive work may proceed in each of the spheres.

10.12 The R.D.S.O. should have intimate contact with international research organisations. Without assimilating the techniques and knowledge in various fields, which other research centres have developed, it may not be possible for the R.D.S.O. to function effectively. It should, therefore, be the policy of the Railway Board to invite foreign experts from other countries to visit the R.D.S.O, to exchange ideas with them and review the lines on which investigations are being done. Notable scientists in India should be requested to visit the R.D.S.O. to enable it to exchange ideas with them.

10.13 The documentation and publication section needs greater attention. It should be well equipped with technical literature and every endeavour should be made to make good the existing deficiencies. There should also be adequate provision for translations from foreign languages. We

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consider that it will also be advantageous if this section is placed under a technically competent Joint Director who is well-versed in the problems of research and who would ensure that the latest developments in science and technology are quickly made available to those engaged on research, and what is of value to the field workers may be quickly disseminated amongst them.

10.14 We have looked into, with some care, the personnel policy adopted in this organisation. It has been manned largely by officers and staff drawn from the railways supplemented by a modicum of direct recruitment. In the nature of things, staffing is an extremely important problem, as the progress depends entirely upon the quality of the personnel employed. Special talent, an analytic frame of mind, persevering nature, a high level of technical and scientific knowledge and a sense of devotion to work, are the requisite qualities. Only such railway men as possess the special aptitude and acumen for research work should he selected. The Director General should be a specially picked officer who should possess all the qualities, mentioned above, and should, besides, have considerable administrative ability and experience. As regards the Directors and the other officers and staff, the Director General should be allowed sufficient discretion to pick up suitable personnel, who should be readily spared by the Railways. Further there should be no embargo on direct recruitment in respect of some special types of technical personnel not readily available in the railways.

10.15 It is to be appreciated that continuity of tenure in an organisation of this nature is of prime importance, but we regret that this has not been fully realise by higher authorities. This is to be done not only by administrative action but also by creating favourable conditions, for those who prove successful, so that they may willingly stay on and their future should be safeguarded. The scale of pay and allowances should conform to those available in the Railway Board for equivalent status. The question of seniority and emoluments should not hamper the research organisation in recruiting the best talent available and getting the best out of them and the research workers from giving their best to the research organisation.

10.16 Experience shows that some of the most outstanding research work has been done at a fairly young age. We, therefore, recommend that in an organisation like this, there should be no rigid adherence to seniority, so that promising young men may be encouraged to take to research. We suggest that successful workers may be allowed extensio of service upto the age of 60 years and that in special cases they may even be allowed to continue beyond this age. It should be appreciated that it is not so easy to build up a really top class locomotive or carriage and wagon designer. Such talent should be utilised as long as possible. We would like to emphasise that, even though due care may have been taken in making the first selection, their work should be carefully watched from the start and any one found unsuitable should be promptly returned to his railway. In the case of others, an assessment of their performance should be made after the period of three years, which should be sufficient for the authorities to evaluate the suitability and efficiency of a research worker. Exceptionally good research workers should be kept on and their conditions of work and the encouragement given to them should be such that they voluntarily look to research work as their career. Such personnel should be absorbed into the R.D.S.O. on a permanent basis after five or six years. Others, who prefer to go back to the railways, should be returned after the said period.

10.17 We have already advocated that the normal rules of seniority should not apply in the case of staff serving in the R.D.S.O. We would go a step further and recommend that there should be a periodical review, say once in three years, of the work of every individual, engaged in research and allied activities in the R.D.S.O. with a view to assess as to whether the standard of his work has been of a sufficiently high calibre to merit advance increments or even accelerated promotion. Such a procedure already exists in the Council of Scientific & Industrial Research for evaluating the work of its scientists and that is bound to increase the efficiency of the workers.

10.18 Finally it is essential that officers deputed to the organisation, including those at the top, should serve the organisation for three years, if not more, and frequent transfers must be avoided. Continuity in the tenure of the Director General, had been emphasized by the Railway Accidents Committee in the following words:

> "It is vital for the success of the Research Organisation that the head of the R.D.S.O. who will chiefly supply the initiative, the drive and the technical competence to obtain maximum results from the organisation, should continue to hold office over a long period, so that he is able to implement policies approved by the Research Council in a satisfactory manner."(Para 225).

The Study Team has noted that this recommendation has not been heeded. The first Director General was appointed in April 1959. There have been seven incumbents on the post since then. They have stayed in the organisation from as little a period as 2½ months to a maximum of 2 years and 5 months. Recently the Director General was transferred within 15 months and in this case no promotion even was involved. We greatly regret this and strongly urge that the policy advocated by the Railway Accidents Committee should be implemented in the future.

10.19 It is equally important to create the necessary facilities for the proper training of the research personnel so as to promote their knowledge of advanced scientific and technical subjects. There are various ways of doing so. The normal post-graduate courses conducted in the Universities and the Institutes of Technology are not suited for this purpose but it may be possible for suitable post-graduate courses to be specially designed to suit the requirements, the cost of which should be borne by the Railway Board. Further some of the Engineering Institutions arrange refresher and special courses, which should be liberally availed of. The staff should be permitted to deliver lectures freely in educational institutions and technical societies. The organisation itself should frequently arrange discussions and take on subjects of interest to it and invite outside experts also to participate in them. Library service is another medium. The staff should also be allowed to attend selected conferences and seminars which are held in the country and in which many foreign experts also participate.

10.20 Full advantage should be derived from the rapid advances that are being made in foreign countries, both in theory and in practice. Training arrangements available through the 'AID' Schemes etc. will normally not be useful. Special arrangements should, therefore, be made on a systematic basis so as to provide opportunities to the younger officers to remain abreast of modern developments. The study leave rules should also be liberalised. The senior personnel should be given opportunities to attend some of the international conferences, and to visit well-known institutions. Rules and procedures for foreign travel should be suitably relaxed and the Director General should be allowed a degree of freedom in this respect. We feel sure that these steps will pay rich dividends.

10.21 The Railway Board should recognise the special

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position and status of the R.D.S.O. as its Chief Consultant and Adviser on technical matters. It is, therefore, necessary that its expertise should receive due consideration. It is inappropriate that any technical recommendation or proposal of the R.D.S.O. should be examined and commented upon by any one lower in rank than a Director in the Railway Board. Enquiries emanating from lower levels can only lead to waste of time.

10.22 Consultancy services have been rendered by the R.D.S.O. to various firms. The R.D.S.O.'s assistance was also availed of recently by the State Trading Corporation in securing an order of Rs.8 crores for tank and hopper wagons for Korea. We consider that it would be prudent to widen the scope of this consultancy work and permit the skill and expertise, developed by a large number of highly qualified as well trained specialists in the R.D.S.O. to be availed of, on an individual basis also, for consultation by outside agencies, industries and the like so that their experience may be utilised in the field of applied engineering. By so widening the field for the technical specialists in the R.D.S.O., as also in the Production Units, a close liaison can be established between them and the industries, and other technical institutions and this will result in natural stimulation and cross fertilization of ideas. Such liaison has produced good results in other countries and has been one of the main causes for the rapid technological advance achieved in

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developed countries. In our developing economy also this will be equally beneficial and should be encouraged. The necessity is all the greater because of the severely limited facilities for consultancy service available in the country.

10.23 We have referred, in the previous paragraphs, to the consultancy service which may be rendered by the R.D.S.O. to outsiders. We should like to stress also the role of the R.D.S.O. as the Principal Technical Adviser to the Railway Board. In this capacity, it should be the RDSO that should certify the new designs of locomotives and rolling stock. The Railway Accidents Committee had recommended as follows:-

> "At present the Railway Board is responsible for fixing standards and specifications, for drawing up designs for locomotives and rolling stock and are themselves manufacturing new types of locomotives and rolling stock. It is equipped with technical experts in the Research and Standards Organisation with facilities for testing and checking. The Railway Board is, thus, the most competent authority to certify such locomotives and rolling stock as to their fitness for being placed on line. There appears to be no reason, why the Government Inspectors, with all their handicaps in respect of up-to-date knowledge of modern equipments and techniques, should be made to shoulder the responsibility of making recommendation in this respect. In this context, it would appear to be an outmoded procedure to channel the applications for the use of new types of locomotives and rolling stock through the Government Inspector. We, therefore, recommend that the question of relieving the Government Inspector of this duty should be considered by the Railway Board."(Page 228).

10.24 The Research, Designs & Standards Organisation is well equipped for developing new designs of rolling stock and certifying their fitness after rigorous tests. There is, therefore, no point in having an overlap of functions in this regard between the R.D.S.O. and the Commissioner of Railway Safety. We understand that recently a difference of opinion arose between the Commissioner of Railway Safety and the R.D.S.O. in the matter of certification of electric locomotives and that this led to the necessity of securing the services of a foreign consultant, who confirmed the opinion of the R.D.S.O. It is precisely with a view to avoid such a contingency that the Railway Accidents Committee had recommended that the Railway Board should consider the question of relieving the Government Inspectorate,-now the Commission of Railway Safety-of this duty. In the light of recent experience, we reiterate the recommendation of the Railway Accidents Committee. Similarly, in the matter of prescribing the standards, it should be the R.D.S.O. that should advise the Railway Board and not the Commissioner of Railway Safety.

10.25 The technical expertise of the RDSO and its status as a technical consultant and top railway research organisatic should be built up by adopting the policies which we have advocated in the earlier paragraphs. We hope that in this manner, the Research, Designs & Standards Organisation will earn recognition not only in this country but also abroad.

CHAPTER - XI

STORES ORGANIZATION

11.01 The Stores Organization of the Indian Railways has very vital functions to perform. Not only has an uninterrupted supply to be maintained of the numerous varieties of stores required to keep the trains running, but other important operations like, new line constructions and remodelling of yards, the maintenance and repairs of track, bridges, buildings and signalling equipment have to be kept going at the same time. The production and maintenance of rolling stock in the production units and the workshops have also to be kept supplied with their requirements to ensure their uninterrupted progress. It is not only the size of the purchase which is very large but also the multiplicity of the items which run into about 20,000 in number. The annual cost of purchases, made for the railways, is of the order of Rs.320 crores.

11.02 The railways at present obtain their stores through three sources:

i) all items of rolling stock, rails and sleepers, items under development and wheels, tyres and axles required for wagons on orders, are procured by the Railway Board;

ii) all standard items, which are common to more than one railway and which are covered by the Research, Designs and Standards Organization specifications and drawings, and where requirement exceeds Rs.25,000 are to be procured by indenting on the Director General of Supplies & Disposals (DGS&D);

iii) non-standard items are procured by the individual railways.

11.03 Based on the above broad classification, the annual procurement of railway stores, through the Director General of Supplies & Disposals comes to about Rs.100 to 120 crores. This includes, not only spare parts for rolling stock and track components, but also signalling items, which have already been developed and standardised. In accordance with the existing procedure, once the indigenous manufacture of certain items has been developed and standardised, they are to be included in the Director General of Supplies & Disposals' list and further procurement is to be made through him, either on rate contracts or on running contracts. Due to this procedure, railways are dependent on the Director General of Supplies & Disposals for the supply of even essential items required for maintenance, delay in the supply of which holds up at times operations in the workshops and in the field. During the visits of the Study Team to the various zonal railways, it had been represented that this dependence on the Director General of Supplies & Disposals had serious repercussions on the supply of stores, leading to delay in repairing engines and other rolling stock and also in completing track maintenance and other works. Indenting on the Director General of Supplies & Disposals, involves forecast and placement of orders far ahead of the period of consumption, (usually 12 to 20 months) and yet the coverage of supplies, for the annual demands, placed by the railways, is far from satisfactory. In the case of one railway, the coverage of supplies by the required date was between 20 and 25 per cent only. This may be seen from the statements at Annexures XI/12 & XI/13.

11.64 The Director General of Supplies & Disposals, who was maintaining statistics in respect of coverage of indents placed by the railways till 1965, has since discontinued the same. It had been represented to us that as on 31-12-1967, there were as many as 50,000 D.G. S&D. contracts, in respect of which supplies were long overdue. Some of these contracts had been concluded as early as between 1957 and 1960. It is also understood that the Director General of Supplies & Disposals periodically returns, 10 to 15% of the indents to the railways, for changing the delivery dates, for one reason or the other. The resultant delays in the supply of stores considerably hamper the work. While the operational work suffers, the railways have to make adhoc arrangements for emergent procurement. At the same time returned indents are to be resubmitted accepting a delayed delivery date, involving unnecessary clerical work and late supplies. Another unsatisfactory

feature...

feature, brought to our notice is the existing conditions incorporated in the rate contracts, which do not bind the supplier to deliver the promised quantity by the stipulated delivery date. Extensions are frequent and there has been practically no case where risk purchase has been arranged by the Director General of Supplies & Disposals against a rate contract. Occasionally some suppliers, after securing a rate contract, proceed slowly with the supplies, and if they find that the market conditions are unfavourable for them to give the supplies within the stipulated date, they resort to delaying tactics. It is understood that the Railways have pointed out this defect to the Director General of Supplies & Disposals but this unfair practice continues. In some cases, when the railways issue a tender to make an emergent purchase, the same party sometimes quotes a higher rate. It may be noted that once an item has been brought on the Director General of Supply & Disposals' rate contract, the direct purchase powers of zonal railways become severely restricted in respect of that item. Thus a rate contract, without any guarantee of timely supplies or risk purchase clause acts as a positive hinderance to the railways in securing stores of good quality at the proper time. This position had also been commented upon by the Committee on the Public Undertakings in their 40th Report, which recommended that these matters should be investigated by the Director General of Supplies and Disposals to ascertain the reasons for delays in delivery or for demanding higher rates when an emergent purchase is made.

11.05 This undesirable feature of delays in the supply of essential materials for railway operations by the Director General of Supplies & Disposals had also been commented upon earlier by the Indian Railway Enquiry Committee, 1947 and by the Shroff Committee - 1950. The Indian Railway Enquiry Committee, 1947, had expressed the following opinion:

> "In view of the fact that the stores supply position on the Railways is still serious. we consider, that it would be best at least for some time to come to decentralise further the purchase of such stores, as can more easily be procured locally, and entrust it to the railways. We realise, however, that any decentralisation of the purchase work, under which the same type of stores might be purchased in the same market by different agencies, might lead to difficulties, but in view of the fact that railway transport is so essential to the country, it is in the interest of all departments to give to the railways a reasonable priority or privileged position. For this purpose we recommend that a joint committee of the Railway Board, the Ministry of Industry & Supply and the Railway Controllers of Stores, should

> draw up a list of items, for which the powers of purchase might be decentralised with advantage to the Railways. It is not necessary that this list need be uniform for all the railways as much would depend upon the availability of materials in the various areas served by them. We do not visualise any increase in the financial powers of the Controllers of Stores; the purchase should normally be approved by Tender Committees". (Page 127)

11.06 The question was examined by the Shroff Committee, which was set up in September, 1950, to carry out a review of the Stores Organization on Indian Railways and to make recommendations for improvements in it. As far as purchases of railway equipment and stores are concerned, the Committee in their report of April, 1951, recommended that the responsibility for obtaining the supply of items, peculiar to the railways, and all those commonly used items, which are essential to the railway operations and workshop production, should be solely procured by the railways themselves. It is understood that although the Railway Ministry pressed for an early implementation of the Shroff Committee's recommendations, the Ministry of Works, Housing & Supply, did not agree with this and the status quo was maintained. We have held discussions with the Director General and the Additional Director General, Supplies and Disposals, the

Director, Railway Stores, and other Stores Officers of the Railways. The Additional Director General, Supplies and Disposals, agreed that there are certain lacunae in the existing contracting system, like the absence of a proper risk purchase clause in the rate contract. He, however, stated that these lacunae were being remedied and suitable clauses were being incorporated in the Director General, Supplies & Disposals' contracts. The Stores officers of the Railways were, however, of the opinion that the Railways would not be able to effect risk purchase when the Director General, Supplies and Disposals' contract failed. Even though the Railways, as the consignee, have the ultimate right to reject the goods, still, in practice, it is not possible to do without the Director General, Supplies & Disposals' representative being associated in the final inspection. The Stores Officers of the railways stated that in any case, for proper inventory control and procurement of vital supplies in time, for the operational requirements of the railways, the present system of effecting supplies through the Director General, Supplies and Disposals was unsuitable.

11.07 We have given careful thought to the recommendations made by the various Committees and, considering the importance of railway operations and the timely supply of essential stores, we have come to the conclusion that a change in the stores purchase procedure.is necessary as far as the railways are concerned. We consider that all items of stores, which are purchased only by the railways and not by other Government departments, for example, items like rolling stock components, track fittings and tools, train lighting equipment, electric traction equipment and signalling equipment should be taken over from the central procurement agency by the Ministry of Railways.

11.08 The following are the reasons, which have prompted us to make this recommendation:-

i) At present, there is a considerable time lag between the date of submission of indents and the date of receipt of materials. The time lag is necessarily very great for central purchases by an external agency, not directly responsible to the user. We feel that the railways by taking over the purchase of the specific materials, mentioned earlier, can reduce the time lag considerably. This will, in turn, reduce the sizes of the inventory.

ii) The Government has already accepted the view that organizations, which are run on commercial lines, cannot afford to suffer from the handicap of uncertain supplies through agencies not under their own control. It is for this reason that enterprises like the Hindustan Aircraft Ltd., Bangalore, the Visakhapatnam Ship Yard, nationalised Air Service, etc., are having their own purchase organizations and indents on the Director General, Supplies & Disposals are placed only on a voluntary basis, where it is felt that the advantages will outweigh the disadvantages, in making purchases through the Director General, Supplies and Disposals.

iii) The functions of purchase cannot be divorced from the other functions, like standardisation, inventory control, value analysis, and control of consumption. For example, it is often necessary when considering tenders, to quantify the effects of differences in delivery or differences in specifications. Such refinements are completely impossible, if the purchasing function is divorced from the materials management functions. It is for this reason that the Parliamentary Committee on the Public Undertakings, while considering the desirable pattern of organization in public undertakings having more than one unit, has stated that it is "in favour of the undertakings having an integrated organization for all materials management functions..." This recommendation has been made in the context of certain undertakings having 2 or 3 separate units spread over the country. It is all the more valid in the case of Railways, which have 9 separate zones spread over the length and breadth of the country and 3 fulfledged production units.

11.09 If our suggestions, contained in the preceding paragraphs are accepted, some additional purchase work will devolve on the stores organizations of the Zonal Railways. We suggest that there should be as much decentralisation as possible of this work in favour of the Zonal Railways and that the Railway Board should concern itself primarily with the coordination work.

11.10 We consider that the system of inventory control should be modernized. We have been informed that this matter is already under examination by the Railway Board. The techniques are well established and we think it should be possible to implement them expeditiously. Besides the Controller of Stores and his officers, the Financial Adviser & Chief Accounts Officer should also maintain an effective control on inventories and a running check on the consumption of stores. The inventory holdings on the railways are of the order of Rs.140 crores representing

from....

from 6.5 to 7 months' requirements. This seems high, particularly in view of the improved availability of indigenous materials. This inventory also includes about Rs. 12 crores worth of scrap which consists mainly of released rails and workshop scrap. Effective steps should be taken for its disposal. The Railways should also pay greater attention to standardization and value analysis.

11.11 Some Controllers of Stores have represented to us that certain modifications in the procedures and an enhancement of their powers are necessary. In respect of purchases made by the railways, references to the Board are generally for:-

a) giving price preference for the purchase of imported stores available in the country over the import prices of those items; and

b) foreign exchange sanctions etc.

As the purchases under item (a) are few, full powers should be delegated to the individual railways to deal with them in consultation with the Financial Adviser and Chief Accounts Officer. As regards (b), it is understood that since April 1965 no allotment of foreign exchange has been made to the Railway Administrations for making miscellaneous purchases. While the scarcity of foreign exchange demands close scrutiny on foreign purchases, we recommend that the Government should consider whether some allocation to meet the established needs of the railways is not possible.

11.12 The Controller of Stores is required to obtain the concurrence of the Financial Adviser and Chief Accounts Officer before any emergency purchase is initiated, in the event of failure of the contracts of the Director General, Supplies & Disposals. It does not appear necessary to us to consult the F.A. & C.A.O. before initiating such an action.

11.13 The system of open tenders for all items, valued over Rs.10,000/-, has been in existence since a long time and in view of the great increase in the cost of materials in the last 10 or 15 years, it would be desirable to increase the tender limit to Rs.25,000/-.

11.14 The procedure to consult the Finance Branch for every variation in the conditions of contract seems unnecessarily restrictive. It should be examined by the Railway Board to see whether it is not possible to lay down a monetary limit below which such consultations are not necessary.

CHAPTER - XII

RAILWAY PROTECTION FORCE

12.01 We have been informed that a high level committee is looking into the organisational problems of the Railway Protection Force. We however, cannot avoid making a reference to the Force, as its service has a marked impact on operational results and customer satisfaction, which are of vital consequence to the railways. We have been informed that thefts of copper wire from sections having electric traction and from railway telephone and control circuits, are endemic. The General Manager, Eastern Railway produced certain charts during our visit, which indicated the seriousness of the position. Thefts of railway coal from loco sheds, stores and materials from workshops and stores godowns and fittings from the rolling stock are also a frequent occurrence.

12.02 The Federation of Indian Chambers of Commerce and Industry and the Associated Chambers of Commerce, in the memoranda submitted to us by them have drawn pointed attention to the problem of thefts and pilferage of goods entrusted to the care of the railways for transport. This is an important reason which deters the mercantile community from despatching their goods by rail and resorting to haulage by road, even though the latter mode of transport may be costlier. An indication of the growth in the quantum of thefts and pilferages of public goods can be seen from the following table:-

Value of claims paid on account of thefts and pilferages.

	1962-63	63-64	64-65	65-66	66-67	67-68
1. Total value of claims paid (in crores of Rs)	4.19	4.79	4.97	5.87	6.10	8.00
2. Value of claims paid on account of thefts and pilferages (in crores of Rs)	1.33	1.38	1.51	1.91	2.45	3.55
3. Percentage of item 2 to item 1.	31.7 %	28.8 %	30.4 %	32.5 %	40.2 %	44.4 %
4. Total cost of R.P.F. staff (in crores of Rs)	6.40	6.48	7.05	7.96	8.94	9.78

It is evident that the Railway Protection Force has not been effective enough and the results have not been commensurate with the large annual expenditure of over Rs.9 crores incurred on maintaining it.

12.03 Whatever reorganisation and enhancement of powers of this force may be suggested by the high level committee, which is specially examining these matters, we are convinced that certain administrative changes in the force are necessary. Under the present set-up, the disciplinary and appeal rules vest powers in the Inspector General, Railway Protection Force and not in the General Manager of the Zonal railway, in whose jurisdiction the Security Officers and staff work. Although the General Manager is free to transfer the R.P.F. staff within his jurisdiction, he has really no administrative control over the Chief Security Officer, the Security Officers or the Class III staff, since their appeals are dealt with by the Inspector General, Railway Protection Force and not by the General Manager. The Inspector General strongly feels that the chain of command should not be disturbed. He, however, recognised that even in the case of the Police, the Civilian authorities in the Ministry have the final say. We, therefore, consider that the appeals should be dealt with by the General Manager. The General Manager, as the Head of the zonal railway, should have effective control on the Railway Protection Force. It is to be appreciated that the Railway Protection Force is essentially a service organisation for the Railways and does not stand on a par with the military or police. The loyalty of this force to the General Manager and the zonal administration in general should be unquestioned. We, therefore, recommend that:-

(a) the Chief Security Officer should be placed under the effective control of the General Manager. The General Manager under the existing rules, is allowed to transfer the Railway Protection Force personnel in his jurisdiction, but one of the General Managers told us of some difficulty having arisen in this respect. If there is any lacuna in the rules or instructions in this connection, it should be removed. The appeals against the orders of the Chief Security Officer should be dealt with by the General Manager.

(b) Further we consider that the Chief Security Officer should maintain a close liaison with the Chief Commercial Superintendent, who is responsible for keeping down the claims bill and developing traffic. It will be noted from the total given in para 12.02

that the position has deteriorated and this is all the more reason why the Chief Security Officer should get guidance and direction from the Chief Commercial Superintendent in the matter of preventing thefts and pilferages and minimising claims.

c) In the Divisions, the Divisional Superintendent is the focal authority. The Security Officers and Assistant Security Officers should recognise the position of the Divisional Superintendent, which is equal to that of a Divisional Commissioner and take orders and directions from him. It should be the Divisional Superintendent who should write the confidential reports of the Security Officers and Assistant Security Officers functioning under his jurisdiction and then forward them to the Chief Security Officer, just as he sends them in the case of other officers to their heads of departments.

d) Likewise the officers of the Railway Protection Force attached to railway workshops should be responsible to the Works Managers who should write confidential reports on them.

12.04 We attach great importance to the implementation of the suggestions, mentioned above, since the problem of thefts and pilferages constitutes an important cause of diversion of high rated traffic to the road despite favourable rail freights. The gravity of the problem has been emphasised by every General

Manager. The remedy lies in the Railway Protection Force Officers and staff working in close liaison with the Operating and Commercial Officers, without which really good results cannot accrue. They should not consider themselves as an independent organisation, not required to take guidance fro the departments which are really responsible for the running of the trains and for the safe and prompt delivery of the goods entrusted to their custody.

12.05 The Inspector General, Railway Protection Force has a dual function. He is the head of the Force and a Director in the Railway Board. As the head of the force, his orders and directives for the working of the force should be carried out by the Chief Security Officers. As a Director, however, he should function like any other Director and should deal with the recruitment, training and transfer of officers, the laying down of disciplinary rules and procedures, courses for training etc. He should also maintain close liaison with the State Police and ensure better coordination between them and the Railway Protection Force in detecting and arresting crime.

CHAPTER XIII

ROLE OF THE VIGILANCE DEPARTMENT

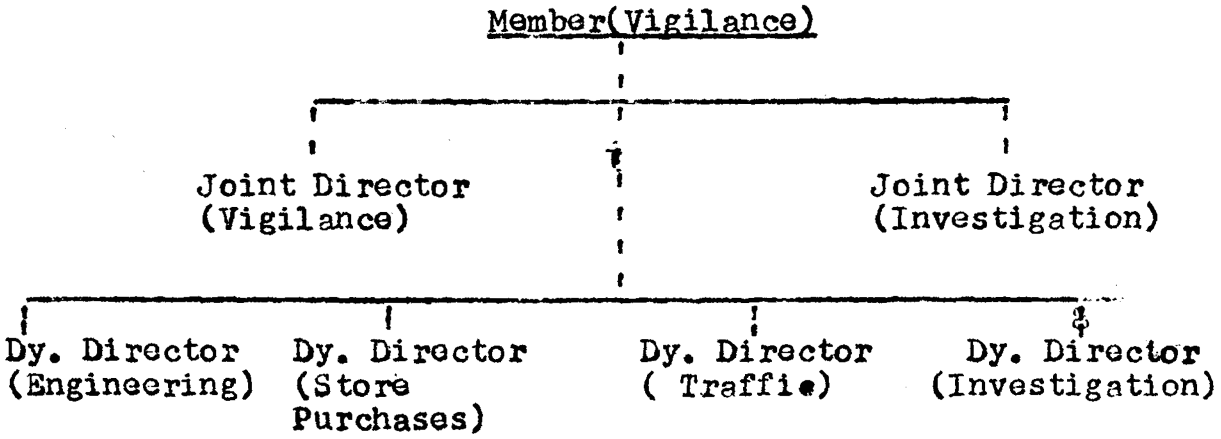
13.01. The Vigilance Department of the railways in its present form came into existence in 1954, as a result of the recommendations made by the Santhanam Committee. Relevant extracts from the Santhanam Committee's recommendations are reproduced below:

> "We have examined the Vigilance Organisation in the Railways with particular care as the organisation came to be set up consequent upon the recommendations made by the Railway Corruption Enquiry Committee of 1953-55 presided over by Acharya Kripalani. We found that no particular member of the Board is in charge of the Vigilance organisation. The Chairman, Railway Board, who is in over all charge of the organisation can hardly be expected to take on the burden of directing its day-to-day activities. The non-availability of high level guidance has caused, to some extent, lack of awareness of the problems and requirements of the Vigilance Organisation and of uniform standards in dealing with misconduct and lack of integrity. The Vigilance Organisation of the Railways suffers from the following drawbacks:-
>
> (1) The Director (Vigilance) in the Railway Board, has no control over the subsidiary vigilance units of the Zonal Railways which are completely under the respective General Managers. The Director(Vigilance) has authority only over the staff in his own directorate in the Railway Board. Director (Vigilance) is not consulted at the time of posting of vigilance officers of the Zonal Railways nor is the Vigilance Branch consulted at the time of promotion of staff and officers. The status of Director (Vigilance) is lower than that of the General Managers of the Zonal Railways. He, therefore, cannot question the decision of a General Manager and in cases where there is a difference of opinion between the Special Police Establishment and the Railways, he acts as a Post Office between the Board, General Managers and the Special Police Establishment, communicating the views and decisions of one to the other.

......(2)

(2) The organisation at the disposal of Director (Vigilance) in the Railway Board's office consists of one Deputy Director(a Railway Officer) who is further assisted by two Assistant Directors - one a Police Officer for investigation work, and another, a Railway Officer for doing correspondence with the Railways etc., fourteen Inspectors and a few Sub Inspectors for investigation work. Considering the amount of work that has to be done, the organisation is wholly inadequate. There is no officer from the Stores and the Engineering Branches. The post of Deputy Director (Investigation) has been down-graded to that of Assistant Director, and a Deputy Superintendent of Police has been appointed."

We consider that the Vigilance arrangements in the Railways would be more effective if the organisation is re-organised as follows:


Member(Vigilance)
Joint Director (Vigilance)
Joint Director (Investigation)
Dy. Director (Engineering)
Dy. Director (Store Purchases)
Dy. Director (Traffic)
Dy. Director (Investigation)

There should be a Member, Vigilance, in the Railway Board so that he may be able to act with authority and independence in all vigilance matters, in respect of the entire railways, subject of course to the powers and jurisdiction of the Central Vigilance Commission. The Joint Director, Vigilance, should ordinarily be an officer belonging to a service other than the Railway Service, preferably an I.A.S. officer. The Joint Director, Investigation, should be Police Officer of the rank and status of the Deputy Inspector General of Police. Adequate investigating staff should be provided at Headquarters. Subject to the powers of the Central Vigilance Commission, the Member, Vigilance, should have a measure of control over the Vigilance Organisation in the Zonal Railways. If there is any difference of opinion between the Member, Vigilance, and the Railway Board, such differences should be resolved on the advice of the Central Vigilance Commission.

In the Zonal Railways, the Vigilance Officer, a Senior Scale Railway officer, works under the control of the Senior Deputy General Manager, who is in charge of vigilance organisation along with some other departments. The Vigilance Officer has to take orders from the Senior Deputy General Manager and General Manager for any

.......investigation

> investigation against a gazetted officer. We are doubtful whether the Senior Deputy General Mangers are selected for their flair for anti-corruption work. We noticed that rarely have vigilance officers of the Zonal Railways investigated cases against gazetted officers. We recommend that Vigilance Officers in the Zonal Railways should have the status of a Departmental Head and be given full liberty to investigate into complaints received by them and it should not be necessary for them to obtain the prior permission of any other authority in the Zonal Railways for making such investigation. If there is a difference of opinion between him and the General Manager, the matter should be referred to the Member (Vigilance) in the Railway Board, whose decision should be final". (Paras 9.19 to 9.22)

13.02. As a result of the above recommendations, the vigilance organisation which has emerged at the Railway Board level is as under :-

Member (Staff)
Director General, Vigilance
Joint Directors - 2
Deputy Directors- 5
Assistant Directors- -
OSD(Vigilance) - 1

The Member (Staff), Railway Board, virtually occupies the position of Member (Vigilance) but, in practice, the Director General, directs the working of the whole organisation and exercises control and supervision over its counterparts in the zonal railways.

13.03. The organisation in each zonal railway functions under the direct control of the Senior Deputy General Manager. The Vigilance Officers work under him and handle mainly the complaints against Class III & IV staff. Complaints against Class I & II are normally dealt with by the Central Organisation in the Railway Board.

13.04. Prior to the implementation of the Santhanam Committee's recommendations, the anti-corruption work on the Railways proceeded on the lines, suggested in the report of the

Railway Corruption Enquiry Committee (1953-55), popularly known as the Kripalani Committee. The main points of difference between the procedures followed, after the implementation of the Santhanam Committee's recommendations and what were in vogue prior to that, are:-

(a) the Vigilance Officers on the Railways, who work under the Senior Deputy General Manager, used to consult the concerned Heads of Departments, who appreciated that they had a positive role to play in vigilance matters and gave serious thought to the subject. Besides giving advice to the Vigilance officers in the cases referred to them, the Heads of Departments initiated preventive measures on their own. They also assisted in pursuing the investigations to the extent needed. This procedure was in line with the Kripalani Committee's recommendations, which laid considerable emphasis on the part that the Railway officers should play in fostering integrity and honosty in the service. Relevant portions from the Kripalani Committee's report are extracted below:-

> "Government should satisfy themselves that officers appointed to higher positions where they have to exercise initiative and take decisions are completely free from any semblance of doubt about their integrity." (para 193)
>
> xx xx xx
>
> "Officers at the top should be made to realise that their duty does not end by merely being above board themselves. It is also part of their duty to see that the staff working under them are efficient and honest."
> (para--193)
>
> xx xx xx

> "Officers should become leaders of men working under them by setting example of efficient and honest handling of the task allotted to them".
> (Para 216)

xx xx xx

> "Lectures should be given by the Heads of Departments and General Managers on the duties and responsibilities of the officers to keep the administration clean".
> (para 155)

The practice followed now is that on the Railways the Chief Vigilance Officer (the Senior Deputy General Manager) and at the Railway Board's level the Director General(Vigilance) decide, whether an enquiry is to be started or not on a complaint, and guide the Vigilance Officers. The Heads of Departments on the Railways are not consulted.

(b) Prior to the Santhanam Committee's recommendations, after a preliminary enquiry into a complaint was completed by the Vigilance Organisation, the decision as to whether there was any prima-facie case, rested with the Railways or the Railway Board. Now, all enquiry reports on complaints against Class I and II officers are placed before the Central Vigilance Commissioner and cases are closed only with his approval.

(c) The Central Vigilance Commissioner also determines, in the case of gazetted officers, whether a charge-sheet is to be issued to an officer on the basis of the report, and whether it should be for a major or a minor punishment. On receipt of the reply to the

......charge-sheet

charge-sheet, the Central Vigilance Commissioner decides what further action is to be taken. If a departmental enquiry is proposed, the Commissioner for Departmental Enquiries, who works under the Central Vigilance Commissioner, conducts the enquiry into the cases against Class I & II officers.

(d) In respect of the Class III & IV staff, the above decisions rost with the Director General (Vigilance) or the Senior Deputy General Manager in the Railways and departmental enquiries are conducted by the railway authorities.

13.05. It is considered that the present practice of referring enquiry reports on complaints against officers to the Central Vigilance Commission, should continue. The Commission is presided over by a retired Chief Justice of one of the High Courts of India and all the reports from the Railways, as also from other Ministries, are scrutinised with a strict judicial approach and the gazetted officers can, therefore, expect full justice.

13.06. The departure from the Kripalani Committee's recommendations in the matter of consulting the concerned Heads of Departments, referred to in item (a) above, is not a desirable change as has been shown in subsequent paragraphs. A comparison of the number of complaints enquired into and punishments inflicted, after the present vigilance Organisation came into existence, with that of the position prior to it, shows that although a larger number of enquires were instituted against officers, the number of cases in which punishments were inflicted was very much less (Annexure XIII/14).] These vigilance enquiries take a long time to finalise. While they are continuing, the staff concerned remains under a cloud. However confidentially these enquiries may be conducted, the fact becomes known and, where the supervisory staff is concerned, they naturally cannot function effectively. Further, during the pendency of the enquiry, they are debarred from promotion if due, and cannot even be empanelled for a higher appointment. If any of them is due to retire, the retirement benefits are withheld. Since such serious consequences follow the institution of a vigilance enquiry, it is necessary that the initial screening of the complaints should be done thoroughly so as to avoid, as far as practicable, the innocent staff being involved in these enquiries; hence, the importance of associating the Heads of Departments in this screening before the commencement of an enquiry. We, therefore, recommend that the arrangement suggested under the Kripalani Committee's recommendations should be restored. Further the railway staff, who are debarred from promotion or who are not empanelled for higher grades or have lost any other privileges on this account, should be adequately compensated, after they have been exonerated.

13.07. Practically every General Manager told us that, in the present conditions, officers were reluctant to act on their own responsibility and wherever possible, they endeavoured to share responsibility with others. Stores officers do not wish to exercise their powers of direct

....purchase

purchase of stores from the market even in an emergency and prefer calling for tenders and involving the Finance officers also in taking a decision. Engineers do not try to settle their disputes with the contractors by negotiation, lest their action may be misjudged, and generally suggest arbitration. This state of affairs leads to delay. The tendency amongst officers, to pass on cases even within their own competence for decision to higher levels, has been growing. The recognised Labour Federations and Officers' Associations emphasised the erosion of the morale of the staff, which had resulted from the manner in which the railway Vigilance Organisation had been functioning.

13.08. Another unhappy feature of the Vigilance Organisation is that a number of railway staff operate in different centres as informers, with the result that the officers and the staff fool that they are all the time being shadowed. The utilisation of the railway staff for this purpose undermines discipline. In addition, it is understood that outsiders are also utilised as informers. We consider that it is undesirable for a judicial or a quasi-judicial body like the Vigilance Organisation to have informers i.e. spies. Action taken against complainants, who make false complaints or give false information, appears inadequate. Statement showing the number of cases in which Vigilance Directorate has recommended action

....against

against false complainants from its inception is given below: -

of ıse omplaints ly.men)	No.of false complainants (Non-Rly. men)	Total	No. of false complainants (Rly. men against whom disciplinary action is taken	PENALTY IMPOSED		No.of false complainants (Rly. men) whose names have been recommended to concerned Railways for suitable action	No.of non-Rly. men who were warned	No.of non-Rly. men against whom prosecution in accordance with the CVC's advice, was suggested to Rly. concerned.
				Major	Minor			
1	2	3	4	5	6	7	8	9
14	2	16	1	3*	3	7	1	1

*This figure includes an employee who was removed from service as a result of disciplinary action in another case.

13.09. The size of the Vigilance set-up on the Railways and the expenditure thereon as compared with the set up and the expenditure in other Ministries, is very heavy, as may be seen from the following table:-

partment	No. of whole time gazetted officers	No.of whole time non-gazetted staff.	Approx. yearly expenditure (Rs. in lakhs)	
			1965-66	1966-67
ilways	78	517	29.35	36.00
eel Mines letals	3	23	1.34	1.94
fence	7	34	4.99	5.98
ptt. of venue & surance ustoms, Central cise).	24	114	15.63	8.21

....Works

1	2	3	4	5
Works Housing & Supply a) Deptt.of W&H.	23	46	4.61	5.44
b) Deptt. of Supply.	3	5	0.82	0.86

During the years 1962 and 1963, before the present set-up came into force, the expenditure on vigilance in the Railways was to the tune of Rs.20 and 21 lakhs respectively. While the Santhanam Committee has been specific as to what should be the type of organisation on the Railways, as regards other Ministries, its recommendation, which reads as under, was not so specific -

> "There should be one Chief Vigilance Officer in each Ministry/Department/Undertaking. The Chief Vigilance Officer and Vigilance Officers should be of sufficiently high rank, so that they may be able to function effectively" (Para 9.23)

Apart from the disproportionately high and increasing expenditure that the Railways are bearing, a sum of approximately Rs.45 lakhs is also being debited by the Ministry of Home Affairs for the work being done by the Central Bureau of Investigation for the Railways.

13.10. The Central Bureau of Investigation and the Special Police Establishment were constituted under the Delhi Special Police Establishment Act, 1946, with the object of dealing with cases of bribery and corruption, committed by Central Government servants. The type of cases that are ordinarily to be dealt with by the S.P.E., has been defined as follows:-

a) cases having wide ramifications,

b) cases of habitual corruption,

...... c)

c) cases with special features which, it is considered, would more appropriately be dealt with by S.P.E. The taking up of such cases will largely be at the discretion of the S.P.E. in consultation with the competent railway authorities,

d) besides actual prosecutions, their assistance can also be taken in important enquiries, or verifications to be made, for which police powers are needed. This would include verification of the assets of railway officers or other persons involved, bank accounts, etc.

Although the C.B.I. and S.P.E. can in their discretion take up any case for investigation, their normal function has been defined, which is to take up cases of bribery and corruption of the types mentioned above, where outside witnesses have to be examined and powers of search have to be exercised. Both the Central Vigilance Commission and the Director General (Vigilance) have been making use of these organisations for cases brought to their notice in which, in their opinion, specialised help was needed. It will however, be desirable if the C.B.I. concentrated on the types of cases mentioned above.

13.11. The basic objective of a vigilance organisation is the prevention of corrupt practices and its success is to be judged by the effectiveness of its preventive work and the deterrent effect of its punitive action. It goes without saying that unless strong punitive measures are adopted, they cannot act as deterrents. Nevertheless, for all anti-corruption work, prevention is of paramount importance. The anti-corruption work must be so oriented as not to create a scare or demoralisation amongst the staff. Either of these would naturally tend to prejudice effective functioning by the staff, to the detriment of efficiency. The Vigilance Organisation, should, therefore, work in such a manner that bonafide actions are not questioned and that the honest man can function undisturbed.

Therefore, unintentional lapses, errors of judgment, or matters arising out of exercise of discretionary powers, where evidence of malafides is lacking, should be left to the care of the departmental authorities.

13.12. On account of the very extensive nature of the service to be rendered to the community by the railways, the contact of the railway staff with its customers and suppliers, is so wide and intimate that the chances of asking for and receiving gratification are many. Accepting small gratification at certain levels has unfortunately become traditional. While it cannot be condoned, its gradual elimination has to be ensured by a sustained preventive drive and an effective watch by the supervisory staff and officers. Unless the entire hierarchy of the supervisory personnel co-operates actively in a common endeavour to eradicate the evil of corruption, it will be futile to expect a radical change. Mere dread of detection or punishment is not enough. In fact the really corrupt individual is often able to take advantage of the loopholes and elude the established detective machinery. In this endeavour the General Manager and his Heads of Departments have a leading role to play and nothing should be done which may create an impression in their minds that they have been relieved of this responsibility or that it has, to any extent, been diluted. In fact, they should be judged by their success in keeping down corruption.

13.13. The problem should be tackled on the following lines:-

i) On the social front, a strong public opinion should be built up against corruption. Irrespective of their status, men known to be corrupt should be looked down upon and kept away from all positions of responsibility and should be socially ostracised.

ii) Anonymous and pseudonymous complaints should not be taken up for enquiry. In respect of signed complaints which contain charges of bribery and corruption, the bonafides of the complainant should be first established before enquiries are initiated.

iii) People should be appointed to high positions in the Railways only after making sure about their honesty and competence. A strict check, therefore, should be made before appointing any one to any position of responsibility in the Railways. But once they are so selected and appointed, they should be trusted and made responsible, fairly and squarely, for weeding out corrupt persons. It should be their responsibility to evolve a suitable machinery to exercise a proper check so as to help them in this weeding out process.

iv) While we are emphatic that every-thing possible should be done to root out corruption, we consider it essential for the healthy functioning of an administration that efforts should be made simultaneously to protect the honest and innocent from any allegations made by unscrupulous people who may be nurturing grievances against their superiors or colleagues. The contents of the complaint should not, therefore, be viewed in isolation, without considering the full circumstances of the case and also the reputation and past performance of the person against whom the complaint has been made. It is only the Head of the Department, who can examine these complaints in the above perspective and can tender advice as to the course of action. The Vigilance Officer should, therefore, invariably consult the Head of the Department or the Controlling Officer. In the event of a difference of opinion between the Chief Vigilance officer and the Head of the Department, the case should be referred to the General Manager whose decision whether an enquiry is to proceed against a Class II, III or IV staff should be final. Cases of Class I Officers should be referred to the Railway Board, where the Railway Board Member concerned should be consulted whether an enquiry is to proceed -

v) A monthly statement of the complaints against officers which have been filed after a preliminary scrutiny, should be sent to the Chief Vigilance Commissioner for his information and any instructions received from him for pursuing any of these cases should invariably be complied with.

vi) Action must be taken in all cases against the 'sources' or the complainants who have falsely implicated any railway official.

....vii)

vii) Cases of alleged misuse of discretionary powers should be left to be handled by the concerned executive authorities.

viii) In cases where real corruption or corrupt practices are involved, the Vigilance machinery should function swiftly and punishment should be strigent, particularly in the case of officers.

13.14. Considering the changes proposed previously, the size of the Vigilance Organisation on the Railways, as shown in the table in para 13.09, is definitely top heavy and has no parallel in any other Ministry including the Defence Ministry. With the active participation of the departmental executives in preventive work, appropriate screening of complaints for enquiries, and weeding out corruption, as explained earlier, a substantial reduction in work should be possible. It is, therefore, considered that there is no necessity to have an officer of the rank of Director General in the Railway Board for vigilance work. The present Vigilance Organisation should be converted into a Directorate of the Railway Board, with a Director in-charge, who should be a competent railwayman with a flair for the type of work involved. This Directorate should be placed under the direct charge of the Member, Staff. Directors of the Railway Board function on behalf of the Board and have the full authority to question a General Manager on any matter or decision taken by him. The Director, Vigilance, therefore, will not be at a disadvantage in dealing with the General Managers. Further, of the two Joint Directors, referred to in paragraph 13.02, one should be a railway

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engineer and the other a Police officer of the rank and status of a Deputy Inspector General of Police. There is no need for such a large number of Deputy Directors. The Vigilance Organisation should get the necessary elucidation and advice on the technical details involved in a complaint, from the concerned Directorate and Members of the Railway Board. We are also of the view that it is not desirable to allow the officers of the rank of Deputy Directors and below to be sent out on a mission of this character on the Railways.

13.15. The present practice of transferring every three years such of the staff as come into contact with the public, deserves serious reconsideration. It is considered that unless the administration has reasons to think that the continued stay of a particular person at a certain place is undesirable there should be no need to transfer the staff just as a matter of course every three years, because this causes personal hardship and dislocation in children's education.

13.16. As regards the set-up on the Railways, we consider that not more than two or three senior scale officers should be earmarked specifically for the Vigilance work. The Senior Deputy General Manager should continue to be in overall charge of the Vigilance work, but he should consult the Heads of Departments on complaints pertaining to the officers and staff working under them.

13.17. The C.B.I. or the S.P.E. should also consult the General Manager or the Railway Board as the case may be,

.....before

before starting an investigation on their own. If there is a difference of opinion between them on whether an enquiry should proceed or not, the case may be referred to the Central Vigilance Commissioner whose decision would be final.

CHAPTER XIV

FINANCE AND ACCOUNTS DEPARTMENT

14.01 The Railways, being a Government Department, are accountable to Parliament, and through Parliament to the public at large, for their financial policies and expenditure. Financial control consists essentially in obtaining Parliament's approval of the budget estimates and for the allotment of funds and ensuring that the funds so voted are expended on the items for which they are voted. In this control, the Comptroller & Auditor General and the two Parliamentary Committees, namely, the Public Accounts Committee and the Estimates Committee, exercise important functions. In the Railways itself, the Financial Adviser & Chief Accounts Officer is responsible for the continuous and effective internal check of all the financial transactions and for the correct and upto-date maintenance of accounts and for tendering, as part of his important functions, advice to the administration in all matters involving railway finances.

14.02 Para 101 of the Indian Railway Accounts code lays down the functions of the Finance and Accounts Department. This department has to ensure that all railway expenditure is properly recorded and that there are sufficient internal checks built in at appropriate stages so that there are no errors or inaccuracies.

14.03 As regards rendering financial advice and making constructive suggestions on economic policies, the

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Financial Adviser and Chief Accounts Officer has a great part to play. It is the duty of the Finance & Accounts Officers to see that proper procedures, as detailed in various codes, are faithfully adhered to in the various departments. In all these matters, it is the relationship of the executive with the finance officer that really matters. Para 109 of the Indian Railway Accounts Code, reproduced below, broadly outlines the relationship of the accounts officer with the executive.

> "109. Accounts Officers and the Executive
>
> The head of a railway administration, referred to hereafter as the General Manager, and the various executive officers subordinate to him are responsible for the construction, maintenance and operation of railways. In the proper and legitimate discharge of their responsibilities the executive officers are authorised to incur expenditure within the limits of their financial powers. All claims against the railway arising out of such expenditure are checked(in accordance with the prescribed rules)on behalf of the Railway Administration by the Accounts Officer, who arranges to liquidate claims which are found to be in order. In functioning thus and in giving financial advice to the executive, the Accounts Officer acts solely in the interest of the executive officers. The Accounts Officer's relations with the executive should therefore be that of a friendly critic. The Accounts Officer should accordingly avoid all unnecessary objections and assist the executive officers to devise and follow legitimate means towards obtaining legitimate ends."

14.04 It has been represented by certain railway administrations that this general principle of the accounts officer being a friendly critic is, more or less, set at naught at the lower level because of lack of appreciation by the latter of their proper role. The executives at the lower level also do not approach the problem in a realistic manner and correspondence results. The situation, as it now exists, is not really conducive to the efficient functioning of a vast industrial-cum-commercial undertaking like the Indian Railways. The Indian Railway Enquiry Committee, 1947, had also commented as follows:-

> "114(i) The existing rules and procedures have become complicated and cumbersome. The need for financial concurrence has been carried to such minute details that executive officers at different levels have to spend lot of time in convincing their Accounts colleagues about the desirability of even minor expenditure. Even after the financial concurrence, in several cases, the audit post-mortem about trifling matters, is carried on, with a meticulous persistence beyond all reasonable expectation of beneficial results likely to be achieved".

The correct attitude to be adopted by the Finance and Executive Officers in dealing with the financial problems needs to be re-emphasised. The attitude of the finance officer should be to help the executive and to avoid being meticulous. Similarly the Executive Officers on their part should give due consideration to the financial advice and if a difference of opinion still persists, the matter should be referred to the higher level for a decision. The financial administration on the railways should be geared to the changing conditions and for more productive work, like performance budgeting, cost accounting and other important functions.

14.05 As explained above, there is an urgent need for a major change in the role, assigned to the Finance and Accounts Officers of the Railways. As we have said above, these officers have a great part to play in rendering advice to the General Manager and the executive officers on broad matters concerning economy and operating efficiency and the overall finances of the Railways. The meticulous scrutiny of individual small proposals relating to schemes already approved and sanctioned, irrespective of the magnitude of these individual matters should not receive as much attention of the Finance & Accounts Officers, as it seems to do now. Their energy should be centred on items like -

a) performance budgeting;

b) effective economy and overall efficiency;

c) detailed examination of major schemes.

14.06 Performance Budgeting One of the prime duties of the Finance & Accounts officers is to modernise their budgeting and base it on certain targets, watch the expenditure and the results every quarter or even at more frequent intervals and enjoin upon the executive to see that timely and adequate measures are taken to work to the provision in the budget and to reduce expenditure when the performance is expected to fall short of the target. Targets should be fixed for the various operating indices and for the utilisation of rolling stock. The best performance attained in the past should be a suitable starting point.

Similarly, norms should be fixed for the output of the workshop and expenditure on track maintenance, etc. In framing the Revenue budget, cognizance should be taken of the fact that operating costs are composed of -

a) independent cost which is not related to the volume of traffic, and normally should not change or change only marginally;

b) dependent cost, which is directly related to the volume of traffic; and

c) recurring cost attributable to development projects.

To have the budget based on the performance targets, adequate costing data should be available, and, for this purpose, it will be necessary to develop norms of dependent costs for operation. These norms may vary with the type of equipment in use, for example, the type of locomotives, the type of coaches, the type of wagons, etc. but it should be the object of the Railway Ministry to lay down appropriate norms for these various types. Once these norms have been prescribed, the increase in operating expenditure, required for any targeted increase in output, can be correctly arrived at for incorporation in the Budget

14.07 The top executive should thus have a clear picture of the increase in expenditure due to the various factors and where the expenditure is disproportionate to the output, steps should be taken to investigate why it is so and as to what remedial measures are necessary to rectify the position. The purpose of this type of performance budgeting is -

... ... a)

a) to present clearly the purpose or the objective for which funds, both revenue and capital, are needed and to bring out the actual accomplishment in financial and physical terms;

b) to bring out clearly the anticipated improvement in efficiency and the actual achievement during the previous year;

c) to pin-point the accountability of the management and at the same time to provide an effective tool to management for better financial control.

Such performance budgeting can be successfully carried out only if the accounting and costing systems are improved and the flow of information from the various points of the Railway to the Divisional/District Headquarters and to the headquarters of the Railway is prompt and up-to-date. These points should engage the immediate attention of the financial administration on the Railways. This subject is further elucidated in Annexur XIV/15.

14.08 With the installation of computers on most of the Railways and with the systematising of accounting procedures and collection of data, the time is ripe for effecting substantial changes in the accounting and management techniq on the Railways. In this connection, we feel that there is an urgent need for the Railway Board to set up a Committee of expert Railway Officers to review the various provisions contained in the Accounts, General and Engineering codes and to modify them to suit the efficient functioning of the Railways. Not only in regard to financial control, but also in regard to various other matters, like the sanctioning of works, the preparation of detailed estimates, the booking of accounts, making adjustments from one work to the other and allocating expenditure to various heads, etc., the code rules, as framed many years ago, cannot be expected to, and do not in actual practice, satisfy the needs of a modern management concept in an organization like the Railways. The size of operations on the Railways has increased enormously and the costs have gone up. Therefore, to have the same scale of checks and counter checks and booking of expenditure, as was required in the thirties, is not suitable in the present circumstances. There is, therefore, need for a new concept and revision of the various code rules.

14.09 In the matter of allocation of expenditure, the matter should be gone into in detail, as to the need for the present large number of allocation heads, keeping in view the fact that this multiplicity of allocation heads, was devised quite a long time ago. Allocation to a large number of detailed heads adds to the clerical work and should not be undertaken unless it is required for a spcial purpose. We also understand that increasing number of procedural orders are being issued by the railways and the Railway Board from year to year. We recommend that all these procedural orders issued from time to time should also be the subject matter of examination by a Committee, along with the various codes for evolving a simplified set of rules and procedures for each department.

14.10 As regards the Audit department, their functions not only cover the Railways but all the Ministries and Departments of the Government of India. A separate Study Team of the Administrative Reforms Commission has dwelt in great detail on the functions of the Audit Department and the relations between the Audit and the other departments, and as such we are not touching on this aspect.

CHAPTER - XV

MARKET RESEARCH AND DEVELOPMENT, CUSTOMER SATISFACTION AND RAILROAD CO-ORDINATION.

15.01 The Railways are the principal **mode** of transport in the country, handling about 80 per cent of the total goods traffic. During the last few years, however, high-rated commodities, like cotton goods, manufactured articles **generally**, sugar, etc. have gone to the road in increasing quantities, leaving the Railways to handle bulk traffic like coal, iron ore, etc. The table below will show the trends:-

mo of mmo-ty.	1950-51		1955-56		1960-61		1966-67	
	Production (tonnes (ooo)	Percentage of movement by rail	Production (tonnes) (000)	Percentage of movement by rail.	Production (tonnes) (000)	Percentage of movement by rail.	Production (tonnes) (000)	Percentage of movement by rail
ment	2655	93.1%	4559	88.2%	7844	83.5%	11053	80.4%
gar	1134	82.3%	1892	71.7%	3029	49.1%	2400	65.6%
a	279	95.0%	308	85.1%	321	77.9%	375	77.6%
te nufac- ires.	850	31.9%	1044	28.2%	1084	24.3%	1120	23.8%
tton nu- ctures	583	81.0%	900	61.9%	993	38.3%	1142	23.3%
w cotton	735	71.4%	831	90.4%	1188	45.1%	981	48.3%
l/Seeds	5158	30.9%	5734	31.3%	6623	22.9%	6489	19.9%

15.02 For improving the finances of the Railways, it is necessary that more and more high-rated traffic, which has to be carried over long distances, is won back to the Railways.

While this requires a certain amount of co-ordination between various modes of transport, certain improvements in the service rendered by the railways to ensure customer satisfaction is very important. Roads are fast developing, many of the unbridged river and streams on the National Highways have now been bridged, roads have been improved and heavier road vehicles are, therefore, operating even on long distance routes. The Railways are, therefore, also meeting with competition on long distance routes, particularly, where break of gauge transhipment poses a problem, e.g. the Bangalore-Bombay route via Guntakal. The Committee on Transport Policy & Co-ordination has suggested that cost studies for the transport of particular categories of goods by various modes of transport on specific sections should be carried out so that a decision might be taken as to which particular mode of transport is the most advantageous to the economy of the country. For this purpose, cost studies will have to be made both in regard to the railways and in regard to the road services, and before any new investments are made on either of them a comparison of the economics of the transport by both modes will have to be made and then only should a decision be arrived at. When comparing investments for augmenting capacity in either service it should be borne in mind that the railways as a common carrier cannot refuse any particular commodity, whereas individual truck owners can pick and choose, which places the railways in a disadvantageous position. If, therefore, traffic increases and rail transport facilities remain inadequate the high-rated commodities which are more susceptible to the diversion will go to the road, leaving the railways largely to carry coal and ore and other low-rated commodities, which will weaken the financial position of the railways. While co-ordination between various modes of transport can to some extent remove unhealthy competition, the only way whereby railways can effectively compete with road transport and improve will be to ensure that the service that they render to the customer gives greater satisfaction.

15.03 The representations received from the various Chambers of Commerce and Industry by the Study Team have shown that some of the causes, which militate against the traffic being won over by the Railways are:-

a) transit delay;

b) frequent **restrictions** on booking;

c) non-availability of the required type of wagons at the required time;

d) loss and pilferage in transit;

e) delays in the settlement of claims;

f) lack of coordinating machinery to assist consignors and consignees in solving their difficulties when traffic moves over more than one railway;

g) the present priority schedule does not enable the railways to give preference to high-rated commodities and that this is affecting the revenues of the railways; and

h) non-existence of a well-developed door-to-door service.

15.04 These points require careful consideration and remedial action. The prime consideration of the Commercial Department of the Railways should be to give customer satisfaction and, for this purpose, they must gear up their

organization....

organization and their methods for studying the market and canvassing traffic, and when traffic is won over, to see that goods are transported in time and delivered safely without any pilferage or loss en-route. The compensation paid for claims on the railways has increased from Rs.3.31 crores in 1952-53 to Rs.6.10 crores in 1966-67 representing an increase of about 84%. At the same time both the volume of traffic and the price have gone up. The claims should be settled promptly and in a business like manner so that occasions for reopening claims may be rare. An efficient system should be developed for avoiding misdespatch of wagons, wagons getting unconnected, and for tracing of such wagons. Two of the chief reasons for claims are misdespatch of wagons and wagons getting unconnected because of loss of labels etc. particularly at transhipment points. With an improved telecommunication system on railways and computerisation, it should be possible to minimise these inconveniences to the customers.

15.05 In the matter of free time allowed for loading, unloading, demurrage and wharfage, etc. the railways should not be too rigid and in special cases should allow such relaxations as the circumstances warrant. One other factor brought to our notice which operates adversely against the interest of Railways is that the despatch of goods by trucks may help unscrupulous elements at certain points to evade legitimate dues like sales tax, excise duties, etc., by under-invoicing and resorting to certain other malpractices like violation of movement control orders. This aspect should be taken note of by the authorities

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15.06 Railways have now embarked upon the running of fast-express goods trains and container services, between certain important industrial centres. Continuous watch should be maintained on the efficient operation of these services with view to achieve progressive improvement. The container service being a recent introduction on the Indian Railways, it is essential that studies should continue for improving their design and handling facilities. This service should gradually be extended bearing in mind the gains achieved.

15.07 As industrialisation progresses, the need will arise for instituting specialised services to cater for specific industries, as in the U.S.A., where special types of wagons, refrigerator vans, etc. are provided by the railways to the customers, or the customers own them, in which case such stock is transported over the railway system.on payment of reasonable charges. In this connection the efforts of the Railways to win back the transport of automobilies should be intensified by putting into service special stock. It is also necessary to improve the designs of wagons, make them shock-proof for certain types of commodities so that packing conditions may be liberalised, and more traffic could be attracted to the railways. Railways will have to think in terms of providing facilities for traffic in bulk of commodities like cement, foodgrains, chemicals, etc. In this context the market research has assumed the utmost importance and the railways should take steps to estimate the possible future developments in the industries, the direction-wise movement of goods, and the type of specialised stock or service that may be required.

15.08 In the matter of collecting data and taking action, the railways should forge ahead, as otherwise they may not be able to provide the requisite facilities, when the industries are ready with their products. The object should be to offer personalised service to the users. For this purpose the customers and the industries should be classified on commodity-wise studies. This will provide the data for formulating the railways' future plans for investment on special types of wagons etc. The statistical organization on the railways should furnish to the Marketing and Sales Superintendents an evaluation of the data gathered from the trends of traffic. The Marketing & Sales Organization, recently formed on the Railways should be developed on the basis of marketing, and operational research.

15.09 Simultaneously with the drive for better customer relationship and market development, there should be an improvement in the work of the Public Relations Department on all the railways, as also at the Railway Board's level. Unless the public are made aware of the facilities that are being offered and the special steps that the Railways are taking in the matter of promoting customer satisfaction, an effective impact cannot be made in assessing the diversion of traffic to the roads or other modes of transport. Also unless the Public Relations Department of the railway is alert and prompt in projecting the image of the railways in respect of improved faciliti available on the railways, they would continue to be at a disadvantage in competing with other modes of transport. For this purpose, we recommend that the Public Relations Organization in the Railway Board should be under a railway officer having a flair and special training for Public Relations work. The Railways too, should take special car to select officers for the posts of Chief Public Relations Officers a they should get some special training and once they are in position, they should hold the post for a minimum period of 4 or 5 years.

CHAPTER XVI

UNREMUNERATIVE LINES & SPECIAL BURDENS ON RAILWAYS

16.01. The financial position of the railways and the measures required to ensure their financial soundness have been dealt with in Chapter XVIII. Here we deal with the question of unremunerative investments. A few such investments were made in earlier years but quite a few have been added on in the recent years under pressure from the public and the State Governments. We have emphasised, in the previous chapters, the need for the railways to work strictly on commercial principles and to take necessary measures to rehabilitate their financial position. As a corollary to this, it stands to reason that expenditure on unremunerative items should be avoided, unless the State Government or the organisation, which sponsors such works, is prepared to meet the deficit.

16.02. During the first, second and third plans, there has been continuous pressure on the Ministry of Railways from the various States for taking up the construction of new lines. There has been a feeling that the railways have a great part to play in developing the hinterland and bringing industrialisation to new areas. The authors of the 1949-Convention also felt that the limited approach of not undertaking projects, which are not likely to be remunerative, ignores the important part that the railway system should play

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in developing the country. This social objective, which influenced the framers of the 1949-Convention, who assigned to the railways a positive role in taking the lead in the provision of traffic facilities in the interest of the overall development of the economy, was laid down against the background of post-war conditions. Perhaps, in pursuance of this approach, the railways during the first three plans, embarked on a policy of substantial expansion to cover not only specific requirements, like the needs of the steel plants, coal and iron ore movement, ports, etc., but also to meet the general transport requirements of areas ill-served in this respect. In the meanwhile, the development of roads and the trucking industry have gathered momentum. The tendency, the world over, is to develop road services on all feeder routes. There is already an extensive network of railways in our country and only feeders are needed now which can, more appropriately, be served by road transport, unless as stated previously, the movement of bulk transport is involved for which the railways are more suited. In the latter case, it may be that a railway line may remain unremunerative for a number of years while the area develops, but so long as there is a reasonable prospect of the line paying its way in due course, the railways should accept the responsibility of providing the required transport. The whole outlook should change and the problem of new lines or the removal of unremunerative existing lines should be viewed from the angle of the overall economic cost to the country in rendering the required service.

16.03 Following a policy decision, the railways have agreed to the construction of road-over/under bridges in replacement of level crossings, provided the local authorities bear the cost of the approaches, the railways only bearing the cost of the bridge portion and that too for a maximum of 24 feet or the actual width of the existing road way. The expenditure incurred by the railways during the past few years for the provision of road over/under bridges is as under:-

1963-64	...	Rs.33.53 lakhs	
1964-65	...	Rs.45.57 lakhs	
1965-66	...	Rs.56.35 lakhs	
1966-67	...	Rs.35.02 lakhs	
1967-68	...	Rs.86.64 lakhs	
1968-69	...	Rs.68.52 lakhs	(Proposed)

The expenditure is going up with more and more requests coming in from the State Governments, who are in addition pressing the railways to bear a higher proportion of the total cost. This is, particularly, so in the case of the roads coming within the limits of the big cities, like Bombay, Calcutta, Delhi and Madras, etc., where the local bodies are unable to find the money to meet their share of the cost. Due to this, the completion of important works is delayed. The provision of overbridges being a safety work, the Railway Safety Works Fund should be utilised for financing such proposals. The contribution to the Safety Fund is expected to be about Rs.2 crores per annum during the Fourth Plan. Considering the large number of overbridges, which the State Governments and the local bodies want to have in a year, they should take steps to find additional funds required for their portion of the work.

...16.04

16.04 Unremunerative branch lines: Unremunerative branch lines on the Indian Railways are causing a loss of about 6.6 crores of rupees to the railways. There are 63 uneconomic branch lines, as shown in annexure XVI/16 , of which 9 are broad gauge, 20 metre gauge and 34 narrow gauge. Their break-up, according to the the Railway Zones, in which they are situated, is as under:-

Railways	No. of lines	Loss (Rs. in lakhs)
North Eastern	2	Rs. 3
Central	2	" 1
Eastern	4	" 49
Northern	8	" 85
Northeast) Frontier)	4	" 61
Southern	6	" 63
Southeastern	6	"2,68
Western	31	"1,30
Total	63	Rs. 6,60

It is understood that a review of some of the lines has been made by the Railway Board to determine which of them can be closed down without detriment to the public interest , considering the availability of alternative modes of transport in the areas served by them. We recommend that wherever an alternative mode of transport is available or is capable of further improvement for handling the traffic now carried by the railways, such losing branch lines should be closed down. The formation of the railway track and the existing railway assets like buildings should then be handed over to the State Governments for their use. It will even be worthwhile for the railways to consider handing over these assets free of cost to the State Governments so that the continuance of such unremunerative branch lines may be avoided. Even if the railways

......have

have to share road transport development, it would be better in most cases than perpetuating heavy losses. It is understood that in the case of 14 such branch lines, the Railway Board have addressed the State Governments, but no decision has so far been taken. A list of these 14 lines is given in the Annexure XVI /17 . We endorse this approach and would like this line of action to be effectively pursued. The Estimates Committee of Parliament has made the following recommendations in their 10th report (1967-68):-

> "The Committee would suggest that the recommendations of the Committee on Transport Policy and Coordination regarding the closure of unremunerative branch lines should be implemented by the Government. For this purpose, the Central Government should impress upon the State Governments that while giving licences or permits for road transport they should keep in view the broad national interests. They should also extend full co-operation to the Railways in closing such of the unremunerative branch lines on which the losses incurred by the railways are not commensurate with the public utility served, and where such closure could be effected by developing alternative transport facilities, at almost the same cost to the economy, to serve the needs of the areas concerned (Page-14)".

16.05 Another item to which considerable thought has to be given is the development of suburban traffic in cities like Bombay, Calcutta, Delhi and Madras. The metropolitan cities have registered a very fast increase in population. Taking Calcutta as an example, the metropolitan district, which had a population of 6.72 millions in 1961, is expected to have a population of 9.42 millions by 1971 and of 11.82 millions by 1986. As regards Delhi, the rate of growth of the population has been of the order of 64.2 per cent between 1951 and 1961, and the total population of the Union Territory of Delhi is expected to be 4.38 milions by 1971. Similarly the rate of growth in Bombay and Madras has also been high. The result is that there has been an increasing pressure on suburban railway systems in these metropolitan areas as may be seen from the following figures:-

Station	Year	No. of passengers in millions per annum.	No. of suburban trains handled daily.	Remarks
Sealdah	1955-56	77.3	228	Figures taken from interim Report of Metropolitan Transport.
	1964-65	135.3	278	
Howrah	1955-56	40.9	126	
	1964-65	90.5	164	
Bombay (W.Rly.)	1950-51	157.5	204	Figures have been taken from the Report of Traffic Studies carried out by officers on Special Duty on the two Railways in 1965-66. (The fig. of Nos. of trains are for trains both ways).
	1955-56	177.8	301	
	1960-61	236.1	369	
	1964-65	337.6	450	
Bombay (C.Rly).	1950-51	142.3	525	
	1955-56	162.1	569	
	1960-61	221.8	592	
	1964-65	343.0	681	

On a conservative reckoning, the railways are sustaining a loss of about Rs.4 crores per annum on suburban traffic at present, but with the increasing traffic, this loss will go up further.

19.06 Apart from the congestion at the metropolitan terminals, due to the heavy pressure of suburban traffic, the scope for the development of facilities for long distance traffic, for which there is an increasing demand, gets limited. At the same time, rail capacity for catering to the suburban traffic is also reaching saturation limit. The difficulty for the development of the rail capacity arises mainly in the vicinity of metropolitan cities where the scope for the development of surface transport is restricted.

Steps should, therefore, be taken in these metropolitan areas to develop underground railways or an elevated railway, to avoid further pressure on the existing facilities. Such rapid transport schemes are operated in foreign countries by special metropolitan authorities. Considering it from all aspects, we are of the opinion that the Indian Railways are the best suited to operate these schemes for serving these metropolitan cities. **Suitable financial arrangements will have to be made** between the Union Government, the State Governments and the Railways for operating such schemes so that the Railways may not have to bear the burden of any losses on account of operating such services.

16.07 We understand that the Railways have been spending considerable sums of money for the last few years on security patrolling, the figures for the Northeast Frontier Railway alone being as follows:-

Northeast Frontier Railway

(Figures in lakhs)

Year	Cost of special patrolling by Railway Protection Force.	Cost of special patrolling by Engineering Staff.	Total cost.
1963-64	4.00	15.56	19.56
1964-65	4.80	14.36	19.16
1965-66	10.76	14.80	25.56
1966-67	8.90	24.97	33.87
	28.46	69.69	98.15

Security patrolling by the Railway Protection Force and Engineering staff had to be introduced following certain sabotage cases on the N.F.Railway, as a measure of safety against such anti-social acts. The position that now obtains on certain railways, like the Northeast Frontier Railway, is that whenever there is intelligence information about anticipated agitation or about attempts at sabotage, police officials, mostly at the Superintendent of Police level, request the railways to arrange for the patrolling of the track. The Railways arrange for patrolling according to the instructions contained in para 1705 of the Way & Works Manual and once it is started it becomes difficult to discontinue it because the police authorities are reluctant to give any indication as to the stage at which such patrolling can be stopped. Although the Chief Security Officers of the concerned Railways keep in touch with their counterparts in the Police department, they are unable to get any clear indication as to whether the patrolling can be withdrawn. Other such instances are the introduction of patrolling on the South Central Railway in Miraj-Belgaum section in October,1966 after the accident to 206 Down-Poona-Vasco-de-Gama Express, and on the Western Railway in Gujarat in April,1965. The maintenance of law and order is the responsibility of the State Governments. Internal disturbances or criminal actions by individuals or gangs cannot be taken care of by the railways and the security of the railway track,which is scattered over the length and breadth of the country, against crime, sabotage or criminal interference comes within the purview of the State Governments, under Schedule VII, list 2(State list) items 1 and 2 of the Constitution of India - Public Order & Police including Railway and Village Police. This obligation of the State Governments has also been emphasised by the Ministry of Home Affairs from time to time. We, therefore, consider that the Government of India should arrange with the State Governments to relieve the railways of the financial burden for security patrolling.

CHAPTER XVII

ANALYSIS OF WORKING EXPENSES AND SUGGESTIONS FOR ECONOMY

17.01 Having dealt with the administrative set-up on the railways, the need for market research and winning back of traffic, we shall now deal with the trend of working expenses on the railways. The operating ratio on the various railways during the past few years is furnished in the following table:-

Operating Ratio

Railway	1962-63	1963-64	1964-65	1965-66	1966-67
Central	67.1	67.8	73.6	72.8	78.5
Eastern	72.8	72.4	81.1	79.3	82.3
Northern	77.6	75.7	83.9	83.5	87.0
Northeastern	96.2	93.6	96.2	98.9	98.0
Northeast Frontier	122.1	114.8	119.4	107.7	123.8
Southern	87.1	84.4	90.4	87.5	94.1
South Central	-	-	-	-	81.1
South Eastern	63.1	62.5	65.1	69.7	70.1
Western	74.3	73.2	75.6	73.7	77.0
All Indian Railways	75.8	74.7	79.9	79.5	83.2

17.02 The operating ratio has been steadily increasing on most of the railways, and even railways like the Northern and the Southern are now running into large deficits. Detailed financial results of Northern, North Eastern, Southern and Western Railways are given in Annexure XVII/18. This continuing trend of losses on the Southern, North Eastern and North-east Frontier Railways, and the sudden reversal of the financial results on the Northern Railway during the year 1964-65, has, in spite of its vital importance, **hardly received due attention of the Railway** Board. This is highly surprising and regrettable. We, therefore, strongly urge that the Board should have a periodical analysis made of the financial results of the railways. While the rise in working expenses under the various demands has been, to a large extent, due to the increase in wages and price of materials from time to time, our analysis shows that there is scope for effecting economy under certain heads of expenditure, as mentioned in the succeeding paragraphs.

17.03 There has been a disproportionate increase in the staff in certain departments on certain railways as indicated below:-

i) Administration - Central, North-eastern and Western Railways.

ii) Accounts - Northeastern and Southern Railways.

iii) Engineering (Ministerial staff) - Central, Northeastern, Southern and Southeastern Railways.

iv) Transportation - Northern, Northeastern, Northeast Frontier and Southern Railways.

v) Commercial - Northeastern and Southern Railways.

vi) Mechanical - Central, Eastern and Northeast Frontier Railways.

vii) Stores - Central and Southern Railways.

17.04 While retrenchment may not be possible, the Railways should take steps to analyse the staff strength in detail in the various departments and declare the surpluses accordingly so that effective measures may be taken to absorb them in future vacancies. It should also be possible for the Railways to train the surplus staff of one category for meeting the requirements in allied categories instead of going in for fresh recruitment. A regular and continuous watch will have to be kept by the individual railways to see that the staff strength does not go on increasing and the objective should be to manage the increasing work-load in the coming years by making use of the surplus staff. Norms sholld be worked out for staff strength in various departments for various jobs. This is an important means which the railways should adopt to improve their operating efficiency and financial position.

17.05 The major departments on the railways, where large expenditure is incurred, are the Civil Engineering Department for the maintenance of the permanent way and works, the Operating Department for the running of trains and the Mechanical Department for the maintenance and supply of power and rolling stock. The reorganisation and improvements that are necessary in these three major departments have been dealt with in earlier chapters. Every endeavour should be made by the railways not to take on unremunerative items of operation. Short distance passenger traffic leads to a disproportionately high level of expenditure in relation to earnings. The coaching stock utilisation on such short services is low and cost of terminal facilities is high. The railways should, therefore, review their passenger train services and keep down short distance services wherever road services can suitably cater to their needs. Such a move may be opposed but in the interest of overall economy and better utilisation of various modes of transport, it will be appropriate for the Railways to proceed on these lines.

17.06 In the past, due to traffic requirements dieselisation has been introduced on certain single line sections. Some of these Sections have been subsequently doubled. The Railways should make a review and where dieselisation continues on double line sections and if the need for diesels is no longer imperative, they should consider diverting these diesels to other single line sections, particularly to areas that are remote from the coalfields and thereby improve the operation.

17.07 The railways should take up detailed work studies and job analysis in areas like marshalling yards, major terminals, booking offices and goods sheds to improve the methods of working and thereby effect economy in staff. It should also be possible to close down some of the crossing sections which existed on single line sections before doubling. Each railway should review this and close down the crossing stations, which have no commercial importance.

17.08 Another item of expenditure, which has been steadily going up, is the overtime payment to the running staff. The rules as framed now places a premium on hours spent on line rather than on mileage covered and, therefore, there is not sufficient incentive for staff to work to the maximum speed. The overtime rules that were in vogue on some railways, a few years back, provided for payment to the running staff on a mileage basis which yielded good results. We recommend that this subject of overtime rules for the running staff should be looked into by a Committee of officers and suitable modifications effected so that there may be an element of incentive in it and the payment is not based principally on the hours spent on route.

17.09 Due to unnecessary division of work, there has been a proliferation of staff categories, leading to the employment of different sets of persons for different items of work, which, by a rational analysis, may be combined together to effect economy. We suggest that by proper work study and job analysis a systematic effort should be made to reduce the staff.

17.10 The expenditure on fuel consumption, sanctioned in the Budget Estimates for 1968-69, is of the order of Rs. 146.08 crores, which constitutes about 24 per cent of the total ordinary working expenses, excluding depreciation. It includes about Rs.12.61 crores, in respect of consumption of electric power for traction, which may be excluded from our consideration. The most important item of fuel is coal and its consumption per thousand gross tonne kilometres on the broad gauge railways varied as follows:-

(Figures in K.Gs.)

Railway	1956-57		1960-61		1961-62		1965-66		1966-67	
	P	G	P	G	P	G	P	G	P	G
Central	47	44	52.4	42.5	52.4	44.2	53.1	49.6	54.0	52.9
Eastern	54.1	35.9	53.8	35.3	55.0	36.1	55.0	58.7	57.9	67.6
Northern	49.0	41.4	53.0	37.8	54.2	39.1	57.3	56.0	61.6	63.9
Southern	59.8	45.6	56.4	44.1	57.5	47.4	61.6	52.3	61.5	58.0

... South-eastern

South-Eastern	52.3	48.5	49.8	46.6	48.4	46.9	53.8	54.3	53.4	60.7
Western	43.8	44.5	47.4	41.8	44.9	41.9	43.6	41.9	46.5	41.8
Total	51.4	42.3	52.5	41.1	52.9	42.1	54.5	50.3	56.2	53.3

The Western Railway has maintained fairly consistent results, but on the other Railways, there has been a considerable rise in the rate of coal consumption in 1965-66 and 1966-67. In the total, compared with 1956-57, the increase in 1966-67 in the case of passengers is 4.8 K.Gs. and in the case of goods is 11 K.Gs. i.e. about 9 per cent in the case of passengers and 26 per cent in the case of goods.

17.11 We have made an attempt to form some appreciation of the reasons for this increase in consumption on certain railways by an examination of the relevent statistical data. One of the reasons is the disproportionate increase in coal consumption on shunting engines. The following statement shows the percentage increase in shunting engine hours in 1966-67 compared with 1956-57 and the corresponding percentage increase in coal consumption.

Railways	Shunting Engine hours percentage	Coal consumption percentage
Central Railway	Marginal	62
Eastern Railway	32	80
Northern Railway	29	106
Southern Railway	19	73
Western Railway	43	135
South Eastern Railway	20	45

It may be seen that the increase in coal consumption on every railway was much greater than the increase in shunting engine hours.

17.12 The average loads and speeds of trains, hauled by steam engines have an influence on coal consumption and those figures for certain representative years in the case of goods trains are reproduced below:-

Railway	1956-57		1961-62		1965-66		1966-67	
	Load	Speed	Load	Speed	Load	Speed	Load	Speed
Central	1117	16.9	1301	16.8	1320	14.7	1320	13.3
Eastern	1272	15.7	1383	15.6	1117	11.1	993	10.1
Northern	1150	13.5	1351	15.2	1211	11.6	1149	11.4
Southern	1089	13.3	1261	12.9	1288	11.2	1354	10.6
Southeastern	1240	14.1	1341	12.4	1216	10.4	1168	10.5
Western	1207	15.9	1312	17.9	1364	16.8	1376	15.4

Central Railway: Coal consumption of goods per thousand G.T.Kms. increased in 1966-67 compared with 1956-57 by 8.9 KG, which works out to an increase of 22%. Loads of trains actually went up by 18% but the speeds dropped by about 22%. Loads and speeds practically counterbalance each other. These factors, therefore, do not account for an increase in fuel consumption.

Eastern Railway: Both the loads and speeds have dropped due to the movement of more important trains hauled by electric or diesel traction, which are not covered in this analysis. Loads have dropped by 22% and speeds by 35%. Coal consumption, however, from 1956-57 to 1966-67, went up by 88%. A special drive has been instituted on this railway and we find that on through goods trains the trend indicates an improvement of 5%, but not on other goods trains.

Northern Railway: The load remained about the same, but the speed dropped by 15%. Coal consumption, however, went up by 53%.

.... .Southern

Southern Railway: The loads went up by 15% and the speed dropped by 20% but the coal consumption went up by 28%.

Southeastern Railway: Loads dropped by 6% and speeds by 28% but the fuel consumption went up by 30%.

Western Railway: Loads improved by 14% and speeds dropped slightly, but on the whole, a steady trend was maintained and coal consumption improved by about 6%.

17.13 We understand that the calorific value of coal had also gone down by about 5%, which may account for an increase of 5% in coal consumption. The coal consumption, however, went up much more. No norms are available to determine how coal consumption varies with speeds. It is, however, clear that coal consumption does not increase in proportion to the drop in speeds - the variation is less, the reason being that when a train is waiting for crossings, the coal consumption is much less than when the train is moving. Train loads, however, within reasonable limits, lead to proportionate increase in coal consumption.

17.14 Coal consumption per 1000 G.T.Kms, on the metre gauge railway between 1956-57 and 1966-67 varied as follows:-

(Figures in KGms)

Railway	1956-57		1960-61		1961-62		1965-66		1966-6	
	P.	G	P	G	P	G	P	G	P	
Central	68.2	56 3	63.2	54.3	57.2	48.5	68.9	61.7	71.3	73
Northern	57.0	43.5	53.3	45.2	54.5	47.3	57.7	54.3	59.6	56
North-Eastern	50.0	42.1	48.1	47.1	50.4	46.3	47.4	43.6	48.6	44
Southern	70.1	58.2	66.8	62.2	65.9	61.9	66.5	68.4	66.7	69
Western	64.0	50.3	62.8	53.4	62.1	52.7	58.4	52.5	57.8	51

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The loads and speeds of goods trains on the Metre Gauge Railways varied as follows:-

Railway	1956-57		1960-61		1965-66		1966-67	
	Load	Speed	Load	Speed	Load	Speed	Load	Speed
Central	560	14.8	589	15.1	614	14.7	578	14.0
Northern	592	14.7	624	16.5	614	17.6	590	17.6
North-eastern	599	11.1	741	10.5	824	11.0	845	10.8
Southern	511	13.5	578	15.3	581	14.1	575	13.5
Western	568	13.6	676	14.0	684	14.0	690	14.6

Central Railway.- The fuel consumption increased by 30%, while the speed decreased by 5% and the load increased by 3%.

Northern Railway.- The fuel consumption increased by 30%, while the increase in speed was 19%, and load dropped in 1966-67 to the 1956-57 level.

Northeastern Railway.- The fuel consumption increased by 5%, while the speed dropped slightly by 3% and the load had increased appreciably by 42%. The performance of the railway has been good.

Southern Railway:-The increase in fuel consumption was of the order of 19%, while the speed for the year 1966-67 has been the same as it was in 1956-57 and the increase in load was 12%.

Western Railway.- The increase in coal consumption was 3%, while the speed had increased by 7% and the load had increased by 21%.

17.15 The above analysis of coal consumption indicates that:

(a) Coal consumption on (BG) shunting engines in 1966-67 compared with 1956-57 had increased disproportionately in relation to shunting engine hours.

(b) Analysis of coal consumption on the movement of goods traffic indicates an average increase of 26% on the Indian Railways. This was partly due to a drop in the speeds of goods trains and was accentuated on the Eastern Railway in particular by a drop in the loads of trains. Even allowing for all factors, including a lower calorific value, the increase in consumption should not have been more than 15%. The increase in consumption is so substantial that we are driven to the conclusion that there is considerable loss on account of theft. The coal bill on the broad gauge amounts to approximately Rs.60.5 crores and that on the metre gauge to Rs.27.25 crores, making a total of Rs.87.75 crores. If even 5% of this is saved, there should be a saving of Rs.4.4 crores, approximately. Reports indicate that the leakage due to thefts is considerable. The Railway Protection Force, which exists for controlling these thefts, has apparently failed in this respect. We find that an expert committee of the Railway Board had reviewed the problem of coal consumption during the years 1952-53 to 1956-57 and had given considerable data indicating the incidence of various factors and a clear analysis of the scope for improvement. It is unfortunate that this analysis has not been kept up. We suggest that a detailed review, on similar lines, should be made for the ensuing year and steps to improve the position intensified. This review should then be kept upto date, with the corresponding figures of each railway shown separately.

17.16 The organisation on the Railways for watching coal consumptio
esent is rather weak. The Divisional Mechanical Engineers on

the Divisions are far too busy in various operating and maintenance duties. We suggest that at the headquarters of every major railway, a Deputy Chief Mechanical Engineer should be in charge of fuel and oil economy. On smaller railways, this may be looked after by the Deputy Chief Mechanical Engineer (Running & Loco). Further, for every two Divisions, a Senior Scale Fuel Officer should be posted, who should personally make trials, fix up trip rations for various services, check fuel forms and take every possible action for economising fuel and oil consumption.

17.17 We have also looked into the diesel oil consumption per 1000 gross tonne Kms.on the Railways. We do not see any advantage in examining the figures prior to 1965-66, because dieselisation was then in an experimental stage. Further, we have restricted the examination to goods traffic, for which most of the diesel power is utilised. The figures for different railways for the last two years are -

(Kilolitre per 1000 gross tonne kilometres)

Railway	1965-66		1966-67	
	B.G.	M.G.	B.G.	M.G.
Central	3.58		3.81	
Eastern	3.34		2.98	
Northern	3.07		3.13	
Northeast Frontier		3.56		4.82
Southern	4.03	4.97	3.89	5.02
Southeastern	3.70		3.94	
Western	-	4.71	3.89	4.75

It will be seen there is a distinct increase in the case of Central, South Eastern and N.F.Railways. Since the consumption of this fuel is likely to increase substantially in future, it is necessary to devise effective measures to ensure that any tendency towards leakage of diesel oil may be firmly controlled. We, therefore, suggest that every oil depot, which supplies oil to diesel engines, outside loco sheds, should be placed in charge of an Assistant Officer or at least a Senior Inspector, whose duty it should be to take every possible step to ensure that there is no leakage.

17.18 Another item which also involves sizeable expenditure aggregating to about 1.5 crores is lubricating oil consumption. We need not reproduce the relevant figures. In the case of engines, the increase in consumption per 100 engine Kms. has been substantial. It is of the order of 40% in the case of the broad gauge and 30% in the case of the metre gauge. We, therefore, recommend that this should be looked into and a continuous watch maintained with a view to keeping down the consumption.

17.19 A study made by the Efficiency Bureau of the Railway Board has shown that above a certain level of traffic, electric traction is definitely cheaper than either diesel or steam traction. While we note that Railway Electrification has been progressing well on the Indian Railways, within the limitation of the availability of funds, this is the one direction in which the railways should maintain steady progress. The electrified running track Kms. which stood at 937 during the year 1951-52, has increased to 5586 in 1966-67. We consider it necessary that the railways should continue, as a long term plan, to expand

....electrification

electrification on more and more of their trunk routes, particularly in areas remote from the coal fields where the price of coal is comparatively high, and should, even in the present difficult economic conditions, pursue progressively their policy to make appropriate capital investments for this purpose.

17.20 We have mentioned earlier in para 17.02 of this chapter that Railway Board should arrange for a periodical analysis to be made of the financial results of railways, particularly, those which are running into a loss from year to year. A comparison has been made of the trends of working expenses on the Western Railway with those of the Northern, Southern and North-eastern Railways. Western Railway has both broad gauge and metre gauge sections of equal importance and this railway has been working on a profit. This comparative study is contained in Annexure XII/19 . We recommend that the Railway Board should make such periodical reviews of the financial results of the working of the railways and take appropriate action to arrest any downward trend in net earnings.

CHAPTER - XVIII

FINANCIAL POSITION OF THE RAILWAYS

18.01 The Railways had handsome surplus during the first, second and third plan periods. The picture, however, was reversed in 1966-67 and 1967-68. The Railways had to take temporary loans of Rs.18.96 crores in 1967-68 and Rs.20.24 crores in 1968-69 respectively from the General Revenues to meet their commitments. It is in this context that we are examining the financial structure of the railways, policies of capital investment, contribution to the depreciation reserve fund and certain cognate matters.

18.02 The two main reasons which have led to this position are:

i) the rapid increase in the capital-at-charge with consequent liability for a much larger dividend payment; and

ii) inadequate development of freight traffic.

Some significant statistical data of interest is tabulated below:

Capital-at-charge

	1950-51	1955-56	1960-61	1965-66	1966-67	1967-68
1. Capital-at-charge (crores of Rs.)	827.0	969.0	1520.9	2,680.3	2,841.6	2,991.6
2. Passengers originating (millions)	1,284	1,275	1,594	2,082	2,191	2,250
3. Tonnes originating (millions)	93.0	115.9	156.2	203.0	201.6	197.6
4. RevenueGross receipts (crores of Rs.)	263.3	316.3	460.4	738.7	769.0	829.6
5. Working expenses including depreciation, etc. and miscellaneous expenses. (crores of Rs.)	215.7	265.9	372.5	598.9	654.8	711.1
6. Net revenue receipts (crores of Rs.)	47.5	50.3	87.8	134.8	114.1	118.5
7. Operating Ratio.	80.0	81.6	78.4	79.5	83.2	83.8
8. (a) Dividend to General Revenues and	32.5	36.1	55.8	103.7	(132.3	141.1
(b) Payment to States in lieu of tax on passenger fare.	-	-	-	12.5	(	
9. Surplus (+) Deficit (-)	15.0	14.2	32.0	18.5	(-) 18.2	(-) 22.6

During the first plan the capital investment of railways was low. During the second plan it was substantially stepped up in conformity with the target of traffic which was practically achieved. In the third plan the capital investment was further stepped up to provide for a target of traffic fixed by the Planning Commission, but the actual achievement of freight traffic was only 203 million tonnes as against a target of 249 million tonnes. The dividend liability of the railways increased to Rs.103.7 crores in 1965-66 as against Rs.55.8 crores in 1960-61. In addition, Rs.12.5 crores had to be paid to the States in 1965-66 in lieu of tax on passenger fares. In 1967-68, the combined payment further increased to about Rs. 141 crores. The operating ratio which stood at 78.4% in 1960-61 at the end of the second plan went upto 83.2% in 1966-67 and 83.8% in 1967-68.

18.03 The Planning Commission, as a central coordinating body, determines the total transport requirements during the course of a plan period and, on its basis, fixes the target for traffic movement on railways. This did not work well during the third plan period, which is evident from the marked disparity between the freight traffic that materialised and what had been planned. The Railway Ministry should, therefore, regulate their annual investment in future on the basis of a continuous review of the forecast of traffic. The Railway Board and the zonal railways should have a proper machinery for this purpose. The actual position in respect of various projects sponsored by other Ministries and the State Governments should be closely watched and their transport needs reviewed. Likewise, the trend of other major developments should be watched. The development of rail facilities takes time, but the time lag is usually less than that required for the development of a particular project and if the industrial growth falls short of expectation, the provision of rail facilities should be correspondingly deferred to the extent practical.

18.04 In the Railways, the expenditure under "Open Line Works Revenue" is met from the annual revenues. Replacement works are financed from the "Depreciation Reserve Fund", built out of the contributions made yearly from the railway revenues. Expenditure, on unremunerative works, like staff quarters, passenger amenities unremunerative operating improvements, etc., is met from the "Development Fund", which is built up out of the surpluses after payment of the "Dividend" to the general revenues. As regards capital works, they are financed from the loans taken from the general revenues on which dividend has to be paid, rate of which has been going up from one quinquennium to another.

18.05 The level of annual expenditure out of the"Development Fund" during the third plan has, on an average, been of the order of Rs.26 crores. In 1966-67 and 1967-68, no amount could be credited to the Development Fund for want of railway surplus To meet the expenditure, loans of Rs.18.96 crores and Rs.20.24 crores had to be taken from the general revenues in the years 1967-68 and 1968-69 respectively.

18.06 In 1967-68, the contribution to the Depreciation Fund had to be reduced to 95 crores as against 115 crores envisaged by the Railway Convention Committee (1965). It is anticipated that in 1968-69, it would have to be similarly reduced by 30 crores.

18.07 In the context of this financial picture, the future financial position of the railways has to be reviewed. Based on certain anticipations of traffic, the Railway Board had, at the beginning of the year, worked out an assessment of the working expenses, operating ratio, and net surpluses for the years 1969-70, 1970-71 and 1971-72. The assessment is given in Annexure XVIII/20 . The assessment was made on the following assumptions:-

a) Passenger revenues - A progressive increase of 4% per annum in the number of passengers and the fares at the level prevailing from 1-4-1968;

b) Other Coaching revenue - A progressive increase of Rs.1 crore per annum and the further assumption that 10% increase in the supplementary charge on parcel and luggage will continue.

c) Freight revenue - In the absence of any reliable indications of future growth, no firm conclusions could be drawn about the volume and pattern of traffic in the years 1969-70 and 1970-71. A total traffic of 225 million tons was assumed in 1970-71 and 12 million additional traffic

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in 1971-72, and a rough commodity-wise break-up of the total traffic during the three years, 1969 to 1972 was done. Year-wise freight earnings was calculated taking into account the supplementary surcharge of 9% except for foodgrains on which it was 6%.

d) Sundry revenue - The earnings from sundries provided for the normal growth of Rs.2 crores per annum.

e) Operating expenses - The working expenses were estimated on the ratio of variable to fixed costs and the variable costs adjusted in proportion to the anticipated increase in traffic. The level of prices in 1968-69 was assumed for the subsequent years.

f) Depreciation on fixed assets: The assessment was based on a contribution of Rs.115 crores during 1969-70 and Rs. 125 crores each in 1970-71 and 1971-72, which was somewhat lower than that assumed by the Railway Convention Committee (1965).

g) Capital at charge : The estimates of expenditure chargeable to capital were assumed at Rs.150 crores during 1969-70, 162.5 crores in 1970-71 and Rs.163 crores in 1971-72.

.. Based

18.08 Based on the above assumptions, the assessment showed a net surplus of Rs.1.2 crores during 1969-70, Rs.7.4 crores in 1970-71 and Rs.26 crores in 1971-72 totalling about Rs.34.6 crores. If a level of expenditure of Rs.20 crores a year from the Development Fund has to be maintained, as shown in the annexure, for each of these 3 years, then the Railways would be left with a net deficit of Rs.25.4 crores over this period.

18.09 The lack of adequate surpluses during the 3 years 1969-70, 1970-71 and 1971-72 to feed the Development Fund, and also the recent trends in traffic, the growth of which had been lower than that assumed for the assessment, make it clear that a more cautious approach is necessary in the matter of capital investment, contribution to depreciation reserve fund and expenditure out of the Development Fund. We have given considerable thought to this matter and our suggestions are contained in the succeeding paragraphs.

18.10. Contribution to the Depreciation Reserve Fund: The annual contribution to the Depreciation Reserve Fund from the Revenues has shown a steep increase from Rs30 crores between 1951-52 and 1954-55, to Rs.45 crores between 1955-56 and 1960-61, and to an average of Rs.76 crores from 1961-62 to 1965-66. The Railway Convention Committee (1965), has proposed an average contribution of Rs.130 crores per annum for the quinquennium 1966-1970, and this has been so determined as to cover the level of withdrawals to meet replacement expenditure during the period so as to bring down inter-alia, the percentage of over-aged stock on railways as follows:-

(i) To spread the replacements of broad gauge locomotives over the fourth and fifth plans so that none will be over 40 years old at the end of the fifth plan, and of metre gauge and narrow gauge locomotives so that none will be over 40 years old at the end of the sixth plan.

(ii) To replace the over-age coaches, as far as possible, by the end of the fourth plan itself.

(iii) To spread replacements of wagons over the fourth and fifth plans so that broad gauge wagons over 40 years old and metre gauge and narrow gauge wagons over 45 years old will be eliminated at the end of the fifth plan itself.

18.11 With a buoyant traffic and revenues rising faster than expenditure, such a course was both feasible and wise, but when the traffic is somewhat sluggish and the expenditure on wages and purchases tends to increase faster than the earnings, an altogether different approach is necessary in assessing the level of contribution to the Depreciation Reserve Fund in the next few years. The peak of withdrawals from the fund on the basis presented to the Railway Convention Committee (1965), would be during the fourth and fifth plans (1966-76) reflecting the replacement of heavy acquisition of assets between 1920 and 1930. The assets acquired between 1931 and 1947 were comparatively of much smaller magnitude owing to the economic depression and second World War. It would follow that, if during the 15-year period from 1976 the assets purchased

...during

during the 'thirties' and the years of the second World War were alone to be replaced, this period would have to bear a comparatively lighter burden in respect of replacements. We would, therefore, suggest that the pace of the proposed replacement of assets between 1966 and 1975 should be staggered and it should be so arranged that a contribution of the order of Rs.100 crores a year to the Depreciation Reserve Fund in the next few years should suffice. The year-wise estimate of expenditure chargeable to Depreciation Reserve Fund and the contribution actual/proposed, and the contributions as envisaged in the report of the Railway Convention Committee(1965), are given below in juxtaposition -

(figures in crores of rupees)

Year	Contribution as envisaged by the Railway Convention Committee of 1965	Actual contribution up to 1967-68 and that proposed for later years	Anticipated withdrawal
1966-67	100.00	100.00	79.69
1967-68	115.00	85.00	103.80
1968-69	130.00	100.00	100.00
1969-70	145.00	100.00	100.00
1970-71	160.00	100.00	100.00
1971-72	Not considered	100.00	100.00

It should be possible to clear the back log and to meet the replacement costs required after 1976 without any appreciable enhancement in the level of contribution to the Depreciation Reserve Fund.

18.12 The Capital works are financed from loans taken from the General Revenues, on which dividend has to be paid, the rate of which has been going up from one quinquinnium to another. The dividend rate has varied as follows:-

Year	Rate	Remarks
1960-61	4%	
1961-62	4.25%	
1962-63	4.25%	
1963-64	4.5%	
1964-65	4.5%	on capital invested up to 63-64.
	5.75%	On fresh capital invested from 1964-65.
1965-66	5½%*	On capital invested up to 63-64.
	6%	On subsequent capital
1966-67	-	
1967-68	-	

(*This includes 1% in lieu of tax on passenger fare).

Broadly, in addition to the bare interest charges, Railways paid on an average contribution to the General Revenues of about Rs.6.8 crores per annum between 1950-51 and 1954-55, and Rs.5.8 crores between 1955-56 and 1960-61. This rose to Rs.23 crores between 1961-62 and 1965-66 (including Rs.12.5 crores for payment to the States in lieu of tax on passenger fares) and Rs.20.54 crores between 1966-67 and 1968-69 (including 16.25 crores for payment in lieu of tax on passenger fares and Rs.1.55 crores as contribution to the Railway Safety Works Fund). In relation to the magnitude of the capital structure, these modest extra payments to the General Exchequer cannot be considered to be an undue burden on the Railways. However, considering the progressive increase in the amount payable as dividend, it is essential to keep down the capital investment in future. Traffic has not built up, to the expected levels and further requirements of extra capacity should be met by better utilisation of the existing resources, with xx capital investment in specific areas where quick returns are possible.

18.13 Another factor which under-lines the need for caution in embarking on new capital expenditure is that in respect of open line capital (unlike expenditure on new lines where a moratorium on payment of dividend is available for five years) dividend is payable on the expenditure from year to year, as and when incurred. Works like doubling, conversion of gauges, yard remodelling etc. come under this category. Such works take a number of years in getting completed, and even after completion, the traffic build-up and the utilisation of full capacity take some more years, while all the time full dividend is to be paid on the expenditure from year to year.

18.14 We suggest that the expenditure out of the Development Fund should be reduced to about Rs.18 crores a year. This would require an exercise of rigorous control on expenditure on buildings, hospitals, passenger amenity works and operating improvements of an unremunerative character. For passenger amenities, the railways have already spent a sum of Rs.14.71 crores during the second plan and Rs.14.63 crores during the third plan. This level of expenditure cannot be sustained in the future owing to dwindling surpluses and should be curtailed to a crore of rupees per year. Items like platform shelters, extension of waiting halls, foot over-bridges, etc, mean recurring expenditure on their maintenance and this is one of the reasons why the maintenance expenditure on the railways has been increasing from year to year.

18.15 Based on the various suggestions contained in the earlier paragraphs and for an anticipated growth rate of 3 per cent per annum for both goods and passenger traffic, a scheme of expenditure for the 5-year period from 1971 onwards is contained in the table below:-

(in crores of Rs.)

	Capital	DRF	DF
Track renewals	-	40	-
Rolling stock	60	51	-
Signalling	5	2	4
Bridges	-	2	1
Miscellaneous	-	5	-
Workshops	3	-	-
Electrification	17	-	-
Line Capacity Works	25	-	-
Conversions	15	-	-
Staff quarters, passenger amenity works, buildings, operating improvements, etc.		-	13
	125	100	18

We consider that for a 3 per cent growth rate in traffic per annum for both goods and passenger, a capital investment of Rs.125 crores a year will be sufficient. If the anticipated traffic increase is more than 3 per cent. per year and this is supported by realistic figures, for every additional million tonnes of freight traffic anticipated per year over and above 3 per cent, a further investment of Rs.7.5 crores per year in capital expenditure will be required. The break up of this Rs.7.5 crores for additional 1 million tonnes is as under:-

8 Diesels	....	1.7 crores
Line capacity	....	3.3 crores
1200 wagons	....	2.5 crores
		7.5 crores

We consider that if a strict discipline is exercised to limit the expenditure to the above levels, Railways will be in a better financial position.

18.16 A subsidiary point that deserves comment, while dealing with the fast accretion to the capital-at-charge, is the need for amortisation of at least certain types of capital not backed by assets or where the remunerativeness is poor. The need for amortisation of a portion of the capital has been recognised over the decades and stressed by successive Convention Committees. Unfortunately, it has not been possible to make any substantial dent on the problem, as even in the best years the net surplus available has not been sufficient to meet the requirements of the Development Fund. A modest beginning in amortisation was however made in terms of the recommendations of the Railway Convention Committee (1965) by which the interest accruing on the Revenue Reserve Fund in the previous year is to be utilised for reducing the capital in the current year. Thus 5.91 crores are to be amortised in the years 1966-67, 1967-68 and 1968-69. However, the recent budgetary deficits have so attenuated the balances in the Revenue Reserve Fund, that the interest available thereon which is to be utilised in future for amortisation is nominal. This stresses the need for the Railways to build up their Revenue Reserve Fund to comfortable levels in the coming years. To help the Railways in this regard, it is necessary that the dividend liability on works in progress like doublings, conversions of gauges, etc., should be reduced. We consider that doublings, conversion of gauges, major remodellings, line capacity works, which cost more than Rs.1 crore individually and which have long gestation periods should be treated on par with new lines and there should be a moratorium on payment of dividend for such works for a period of 5 years. In fact, the same procedure should be adopted for production units and dividend should become payable on these units only after they have gone into full production according to set targets or a period of 5 years whichever is less.

18.17 We consider that if the above steps are taken and if the growth in passenger and goods traffic is as envisaged in the assessment given in annexure XVIII/20, it may be possible for the railways to raise some surpluses by the end of 1971-72, which can be utilised for paying back the loans taken from the general revenues and for feeding the Development Fund. It may be mentioned in this connection that the growth in traffic during the last six months, particularly passenger traffic, has been below expectations and, as such, railways have to exercise great caution and do all that is possible in the matter of effecting economy. No allowance has been made in the assessment contained in the earlier paragraphs for further increase in cost, dearness allowance, price of coal and other essential commodities. It is very difficult to quantify these factors, and we can only suggest that the railways should do everything possible to reduce the working expenses by saving on fuel and maintenance and operating expenses, and, at the same time attract more traffic by taking vigorous steps for market development. We have gone on the premise that it should be possible to reduce the operating ratio to a level of 78 per cent by 1971-72 from the level of 83.8 per cent in 1967-68.

18.18 The above proposals are to serve only as interim remedies, but in the long run railways can improve the financial position only by taking steps to increase the net earnings. The first priority in this has to be given to economy in expenditure. Some suggestions as to the fields where economy can be effected have been given in an earlier chapter (XVII). One of the reasons for the present level of expenditure being high is that the level of staff input obtaining at present on the Indian Railways is high. It should be possible to reduce the staff input per unit in the Indian Railways by effecting suitable improvements in operational techniques and by the use of improved technology. However, in view of the declared policy of the Government that no serving staff should be retrenched, this may not achieve any substantial economy in the short run. Yet the objective should be to attain this reduction over a period of time by working off the surpluses against the normal attrition of staff by retirement etc.

18.19 Next comes the possibility of improvement in the level of earnings. Frequent increases in railway fares and freights are undesirable, both on account of the adverse public reactions to them and their economic consequences. Further, generally speaki when there is a recession in the economy, it is not desirable to attempt neutralisation of the effects of recession through increas in fares and freights. The better course to adopt, in such circumstances, would be to increase the operational efficiency to maximum so as to counter the effect of the recession by economy in expenditure. Even so, it might be possible to get some additiona earnings by making selective increases in certain fields. There are commodities, the freight on which does not cover even the cost of transportation. There are also other commodities, which are being charged at rates, which are low when viewed in the context o the market price of the commodity. We understand that an officer on Special Duty (Freight Structure), at the level of Additional Member of the Railway Board has already been appointed to explore the possibility of obtaining a higher level of earnings. Some preliminary work in this respect is essential and must be done. However, it seems to us that this is too big and complicated a task to be dealt with by a single individual and we suggest that the matter should be remitted to a committee after the preliminary investigations are over. A reference has been made elsewhere that the proportion of traffic, carried by rail, of the total production of some important commodities has tended to fall over the years and some suggestions have been made about the steps which are required to be taken to arrest this trend. In making any freight adjustments, careful attention would, of course, have to be given to the sensitivity of traffic to change in rates, particularly in relation to competition from roads.

18.20 An analysis of the volume of and earnings from non-suburban passenger traffic by distance zones indicates that over 80% of the traffic has a lead of 80 Kms. or less, while the earnings from the traffic are only 28% of the total for non-suburban traffic. In the chapter on 'Working Expenses', it has been mentioned that short distance passenger traffic places relatively greater burden on the railways. A specially low tariff has been in force for 3rd class travel for distances upto 80 Kms. The justification for the continuance of this specially low tariff must be reviewed and, if necessary, the tariff should be suitably readjusted. Apart from this, in order to correct the financial imbalance inherent in short distance traffic referred to above, and to ensure that no major chunk of traffic carried by the Railway is unprofitable, the Railway Board must make urgent studies of the fare structure, particularly for all short distance traffic and bring it more in line with costs. From this angle, the temporary increase of five paise and ten paise, etc. per ticket levied from 1968-69 is a step in the right direction.

18.21 In respect of passenger services, further extension should be taken up only if the returns are favourable and uneconomic services should not be perpetuated. It should be realised that in the overall assessment, passenger traffic does not pay and the loss is fairly substantial. If the existing level of fares cannot be enhanced to make up for this loss, then a measure of austerity and over-crowding will have to be tolerated to avoid any further increase in the loss. Railways should voluntarily surrender short-lead traffic,

....which

which does not pay, to the road services.

18.22 It has been emphasised earlier that the objective of the railways should be to reduce the level of capital investment and to effect economies in respect of working expenses, and thereby reduce the operating ratio. The operating ratio on certain railways is very high. We are, particularly, concerned about the continued losses on the Northeastern, Northeast Frontier and Southern and now the Northern Railway. The position in respect of these Railways for the last few years is indicated below:

(Figures in thousands o

	Earnings	Working expenses	Operating ratio	Net surplus/ deficit
Northern				
1964-65	92,05,17	77,19,03	83.9%	(-) 93,05
1965-66	102,80,10	85,80,37	83.5%	( ) 2,72
1966-67	109.12,21	94,90,35	87.0%	(-) 4,66,73
Northeastern				
1964-65	32,35,32	31,11,09	96.2%	(-) 4.97,03
1965-66	35,23,01	34,84,61	98.9%	(-) 6,33,39
1966-67	39,00,02	38,23,62	98.0%	(-) 75,98,80
Northeast Frontier				
1964-65	24,77,17	29,56,84	119.4%	(-) 8,53,64
1965-66	30,66,30	33,03,68	107.7%	(-) 5,69,02
1966-67	30,81,97	38,17,74	123.8%	(-) 9,32,30
Southern				
1964-65	84,05,51	75,98,29	90.4%	(-) 8,81,59
1965-66	94,88,75	82,99,99	87.5%	(-) 6,32,72
1966-67	73,02,21	68,73,66	94.1%	(-) 11,02,25

We have mentioned these examples to show the need for vigorous steps not only to effect economy in the working expenses of these Railways but also for adequate care in planning their capital expenditure programmes. These Railways should also take steps to win back traffic to the Railways. The directions in which action should be taken have been indicated in Chapter XVII.

CHAPTER XIX

FUTURE POLICY FOR DEVELOPMENT

19.01. Future development on the Railways will naturally depend, mainly upon the trend of industrial advance and the resultant growth of traffic. The normal growth during the pre-independence period was estimated at 1 to 1½% per annum. In view of the present state of economic development and the effort which is being made for its promotion, the rate of growth of traffic is likely to be larger. For the period ending 1970-71, it is likely to be of the order of 3% per annum. The picture of development envisaged in the Five Year Plan commencing from 1969-70, is yet under the consideration of the Planning Commission, We have, therefore, on the basis of the existing traffic trends suggested that the rate of investment during this period on the Railways should not exceed Rs.125 crores per annum excluding the throw forward costs of new lines. If the rate of increase of traffic exceeds 3% per annum we have suggested that for every extra one million ton, an additional investment of about Rs.7.5 crores should be adequate.

19.02. The Planning Commission, which prepares the economic development plan, also works out its transport needs and sets the targets for the railways. Major developments arise because of steel, coal and export ore traffic. The Railway Board naturally has to set its sights accordingly and make the requisite provisions in its plan for development. We, however, suggest that before starting the implementation of any of the major schemes, the Board should keep itself informed of the corresponding developments envisaged in the industrial plan and postpone investment in them if any scheme is lagging behind. For instance, a steel factory takes from four to five years to set up. Likewise, a major increase in coal traffic will only arise because of steel or thermal power generation. A thermal power plant also takes from 3 to 3½ years to put up. In respect of the export of ores too, the developmental work at the quarries and the port takes considerable time. There is, therefore, an adequate margin for the railways to execute their own works in time if they maintain a close watch on the trend of these developments and act accordingly. Preliminary action, however, should proceed in the normal course, but the execution should only start after a careful assessment of the position in respect of individual developments.

19.03. Coming to the nature of developments, we wish to highlight certain problems which require detailed examination and commend some suggestions for the Railway Board's consideration, namely:

(i) Passenger Traffic:

(a) Further increase in the loads of some of the important Mail and Express trains may be considered. Higher loads may require air brakes, the provision of which is feasible because these trains are operated by fixed rakes. Since the halts of these trains are few, the problem of longthening of platforms will be limited to a few stations. In the U.S.A., 20 to 22 bogie trains are common.

(b) Reduction of UPPER class accommodation from some of the Express trains and its replacement by third class accommodation may be considered.

(c) Normally not more than one sectional passenger train should be allowed on any section. It should be realised that these short-distance trains do not generally pay, and as they stop at every station, the sectional time and capacity utilisation is greater. The railways, therefore, as a policy, should support the development of road services to cater for the needs of such traffic.

(d) This, however, does not apply to suburban traffic moving to and from the metropolitan towns, because the peak demand is so high that road transport cannot adequately cater for it. Mid-day demands, however, may be left to the road services, depending, of course, on their volume. It has already been suggested that alternative means should be developed to cater for the needs of an expanding volume of suburban traffic.

(ii) Goods Traffic:

(a) The sectional work trains which normally operate on sections varying from 50 to 100 miles, are slow moving and take up proportionately larger movement capacity. Their elimination from certain key sections would be advantageous. This policy has been followed in the U.S.A. and Japan and the roadside traffic is moved by road services between specified distributing centres.

(b) For further development of capacity, before the doubling or trebling etc. of the track is contemplated, other possibilities should be fully explored. In this connection we suggest that long term perspective plans should be drawn up for

(i) Electrification;
(ii) Dieselisation; and
(iii) Signalling improvements.

Unless this is done, rational integrated development is not possible and ad-hoc measures may be taken, which afterwards

.......may

may prove uneconomical or infructuous. Considering the shortage of diesel oil in the country and the relative economics of electrification and dieselisation, we think that the logical course would be to extend electrification to intensive trunk routes. We had asked the Railway Board to furnish to us details of their perspective Plan for electrification. They furnished us a list of worksunder execution and mentioned that the inclusion of the Vijayawada-Madras Section was under examination. In this connection we should like to say that for securing optimum economic results, the best course is to electrify or dieselise long stretches of sections where large scale through movement is involved so that the locomotives hauling the traffic may move long distances without a change. Judged in this light, the Vijayawada-Madras section does not seem an ideal one for electrification because:

(i) Traffic from Waltair to Madras will involve a change of engines at Vijayawada and result in hold-up of trains in Vijayawada yard which might better be avoided.

.....(ii)

(ii) Coal traffic from Dornakal side for Madras will also involve a change of engines at Vijayawada.

(iii) Traffic moving via Gudur will also involve change of engines.

(c) We suggest that for future electrification, the following sections may be considered:-

(i) Tundla-New Delhi
(ii) New Delhi-Agra Cantt.
(iii) Mathura-Baroda
(iv) Bhusawal-Durg
(v) Madras-Cochin.

(d) The remaining trunk routes and some important branch lines may be considered for dieselisation depending upon the needs of traffic. Shunting pilots in some of the major marshalling yards should be dieselised.

19.04. In regard to signalling we have already suggested in chapter VIII, a phased programme of development. Its perspective plan should be drawn up so that an integrated picture may emerge. It is to be appreciated that the full benefits of electrification and dieselisation can only be derived by modernisation of signalling.

19.05. Metre-Gauge conversion is also extremely important for the development of capacity and ensuring economy. In this connection we have already made some suggestions in chapter V and consider that a fixed allocation should be made for this purpose in every Five Year Plan. To achieve reasonably good results, all that is necessary is to convert certain key sections, which would substantially reduce concentrated large scale transhipment of traffic, facilitate movement and cheapen costs on metre-gauge sections which are operating near saturation level.

19.06. Running of longer goods trains is another device for eliminating expensive line capacity works. In countries like the U.S.A., Canada and Russia long trains for the movement of goods traffic are a common feature. The Railway Board recognises the value of longer trains for closed circuit movements and in these cases it also proposes to equip the rolling stock with air-brakes. Such movements, however, are likely to be limited. They would be confined to the movement of raw materials to Steel plants and large scale export of ores from an area to a port.

19.07. The problem which we wish to high-light for detailed examination and close consideration in a long term perspective is, whether longer trains will also become necessary on some other sections of the Railways, taking into account the development of demand during the next 20 to 30 years. Upon the answer to this question hinges the decision about the type of brake power needed. We understand that a new equipment costs almost the same in both cases. The problem, however, involves the replacement of the vacuum brake on the existing stock of about 2,80,000 wagons, including brake vans. The replacement cost is estimated to be approximately Rs.3000/- per wagon or in the aggregate Rs.84 crores.

19.08. In order to avoid this heavy cost of replacement, the Research Designs & Standards Organisation has been carrying on investigations with a view to improving the efficiency of the vacuum brake. They have reached the conclusion that, with the new 90 ton wagons, the maximum gross load which could be hauled with the modified vacuum brake equipment would be about 4050 tons. This then is the limit of the vacuum brake equipment. An appraisal should, however, be made first as to the quantum of increase in traffic on certain key routes e.g. Dhanbad-Moghalsarai, Tatanagar-Bombay, Moghalsarai-Delhi, Bombay-Baroda-Delhi, Katni-Ahmedabad, Agra-Delhi, Vijayawada-Madras. Coal and steel will necessarily move out from centres of production to the distant consuming areas and will have to traverse some of these routes. Large scale movement of coal will also be necessary to feed the thermal plants which may be located away from the coalfields. The routes linking the important metropolitan centres will also inevitably have to bear the impact of the growth of traffic.

19.09. We had requested the Planning Commission to furnish us with the details of thermal plants which are likely to be set up during the next 20-30 years in U.P., Punjab, Rajasthan, Gujarat, Madhya Pradesh and the South. They have given the following information:-

.....(Figures in M.W)

(Figures in M.W)

Scheme	Existing capacity	Additional sanctioned capacity	Possible future extensions	Source of coal
Coal supply from Bengal, Bihar, Central India & Singrauli collieries				
Badarpur(Delhi)	-	300	200	Bengal/Bihar collieries.
Nasik(Maharashtra)	-	240	600	Maharashtra collieries.
Purli(Maharashtra)	-	60	-	Central India coalfields
Harduaganj(U.P.)	200	110	-	Singrauli
Delhi extension	233.5	55	-	Singrauli
Faridabad(Haryana)	-	55	-	Singrauli.
Supply from Singareni collieries in the southern Region				
Kothagudam (A.P)	340	200	700	Singareni collieries
Ennore (Madras)	-	430	-	Singareni collieries
Basin Bridge Extn.(Madras)	-	30	-	Singareni collieries

19.10. It has also been stated that the general policy is to locate thermal Plants, as far as possible at the pit heads or near the washeries. The assessment given apparently relates to what has already been approved for the Fourth Plan and may be needed in the near future and the future long term perspective seems to be fluid. The Hydro-potential in the country being limited, thermal power development in a big way seems inevitable in the future. The capacity set up in the country for the production of thermal Plants is about 3 million K.Ws. per annum. While a substantial proportion of these units may be set up in the coalfields, it seems highly improbable that in this land of distances, areas far away from the coalfields will be fed mainly from these sources. The supply of power, through the grids is normally arranged for distances of about 400 miles from the source. We, therefore, think that more thermal plants will have to be set up away from the coalfields. We, however, realise that atomic power is also coming up and its future development in a big way is likely in these areas. It is, therefore, difficult for us to venture a definite opinion on this subject. The whole question will presumably depend upon, which way the economic advantage will lie in the future.

19.11. In advanced countries the requirement of power gets doubled in ten years. In our country during the Fourth Plan it is likely to go up from 10 million K.Ws. to 18 Million K.Ws. i.e. an increase of 80% in five years. If we assume that the rate of advance after the Fourth Plan will get stabilised at the same level as in the developed countries, by 1981, the installed capacity is likely to rise to 36 million K.Ws. and by 1991 to 72 million K.Ws. It cannot be said, as to what fraction of this will be contributed by thermal plants installed away from the coalfields. For a million K.Ws. of thermal power three million tons of coal is required per annum. Therefore a considerable volume of coal will move on trunk routes to thermal plants.

19.12. Further the volume of movement of traffic on the routes mentioned above is bound to increase even otherwise. They are key routes and if a 5% per annum increase materialises, the volume of traffic will get doubled in 20 years.

....19.13

19.13. We, therefore, pose this problem for serious consideration particularly because quadrupling the sections which have already reached the saturation level as double lines, would be more expensive than the replacement of vacuum brake by air brakes on the existing stock. The longer it is put off, the greater will be the cost. We, however, think that the entire stock do not require the replacement of vocuum brake by the air brakes. Wagons which are due condemnation during the next 10 years need not be touched and could be relegated for local loading only. The replacement task may then be confined to about 2,00,000 wagons which will cost about Rs.60 crores.

19.14. New line construction should only be allowed, if it is a paying proposition. Road services all over the world have been developed to cater for the development of new areas and we recommend the same policy for our country.

19.15. The Rolling stock position should better be kept tight so that there may be an incentive to improve the perfomance and maintain a higher target of output. A surplus of Rolling Stock will inevitably lead to slackness and a sense of complacency. Whatever cushion is maintained to meet peaks of traffic and other eventualities should better be stored in good repair and taken out for use only after optimum results have been obtained from the stock in use.

CHAPTER-XX

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

20.01 Keeping in view the great importance of ensuring a rational and healthy growth of the Railways on sound business principles, we have made recommendations which cover the organizational and operational fields on the Railways as also their financial position, working expenses, research and development, and other allied themes. On the organizational side we have reviewed the set up that is necessary at the apex, i.e. the Ministry, and have suggested certain measures for strengthening the Railway Board and stream-lining the procedures. The Chairman, Railway Board, should have no specific responsibility of being incharge of a Department and an additional post of a Member in the Railway Board has been suggested. An officer-oriented pattern with a greater delegation of powers and decentralization of work will result in better efficiency and reduction in the number of officers and staff in the Railway Board.

20.02 On the zonal railways organizational improvements have been suggested so as to reduce the burden on the General Managers by having Principal Officers, to whom certain Heads of Departments will report. A greater delegation of powers to the Heads of Departments and Divisional Superintendents has also been suggested for the efficient functioning of the railways. This is likely to lead to reduction in the number of officers and staff required on the zonal railways. Certain steps necessary for improving personnel administration on the railways

and.....

and career prospects of officers and staff have been recommended. In view of further decentralization of work to the zonal railways and Divisions, some adjustments in certain grades have been suggested in keeping with the higher responsibility attached to the posts.

20.03 It has been suggested that Divisional system should replace the district system on the North Eastern and Northeast Frontier Railways to improve efficiency.

20.04 Emphasis has been laid on the need to effect economies in the various spheres of railway working, namely, operation, maintenance and staff in-put. For this, various measures have been suggested, like operational research, better utilization of assets, improvements in workshop output and proper cost accounting and performance budgeting. Certain railways have been incurring losses for the last few years. The need for a periodical review of the financial results of the working of the railways by the Railway Board has been stressed on the lines of the economic analysis made in our study for certain railways.

20.05 The need for stepping up the research activities of the Research, Designs and Standards Organization so as to achieve the much needed technological improvements in the working of the railways in the various spheres, has been stressed. A re-orientation in the working of the vigilance organization has been suggested so as to achieve the desired results. Similarly, certain shortcomings in the working of the Railway Protection Force have been brought out. Measures have also been suggested for improving the working of the Stores Department in the Railways and the Railway Board.

20.06......

20.06 In the light of depressed traffic trends, the need for carefully controlling the capital investment has been stressed. A scheme for investment during the next few years, revision of replacement policy and contribution to the Depreciation Reserve Fund has been suggested with a view to improving the economic position of the railways. In this context the need for reviewing uneconomic investments and other burdens on the railways has also been stressed. An indication has also been given of the lines on which the future policy of planning and development should be oriented.

20.07 In the following paragraphs, we summarise the principal conclusions and recommendations contained in our report. (The recommendations marked with an asterisk (*) are considered to be important and are of a basic character).

CHAPTER - II - RAILWAY BOARD

*(1) The present arrangement by which the top executive body, namely, the Railway Board, consisting of experienced railwaymen who have worked in various capacities and have gained an intimate and expert knowledge of the complex working of the railway system, functions as a secretariat to the Minister, has stood the test of time. We are of the opinion that in the interest of the railways, the present arrangement should not be changed. (Paragraph 2.08)

*(2) We are of the definite opinion that the Chairman, Railway Board, should be relieved of his functional responsibility to enable him to coordinate the activities of the Board etc. It is, therefore, necessary that an additional post of a Member should be sanctioned. (Paragraph 2.10)

*(3) The Chairman should be a railway man with comprehensive

knowledge and experience of railway working. It is not necessary that the senior most Member of the Railway Board should be appointed as the Chairman of the Railway Board. An outstanding General Manager of a Railway possessing the qualities mentioned in para 2(10) should be equally eligible for this appointment. (Paragraph 2.10)

*(4) We are of the opinion that the Chairman should be consulted by the Railway Minister when he selects the Members of the Railway Board. (Paragraph 2.10)

*(5) There need be no embargo on the selection of a railway officer other than a General Manager for the post of Member, Railway Board, if he is exceptionally brilliant and his name is already included in the panel for General Managers. (Paragraph 2.10)

*(6) Important matters of policy, major decisions regarding development, investment, budgetary allocation etc. should be jointly discussed in the Board meeting. (Paragraph 2.10)

*(7) The Chairman should continue to have powers to overrule the Members of the Board. (Paragraph 2.11)

(8) In our opinion differences between Member, Finance, and the other Members on financial matters should be discussed at the Board meetings and resolved there. (Paragraph 2.11)

(9) The designation of the Financial Commissioner should be altered to Member, Finance, in line with that of the other Members. (Paragraph 2.12)

*(10)In order to conform to the pattern obtaining in other Ministries, Additional Members of the Railway Board should be given the status of Ex-officio Additional Secretaries, and the Secretary and Directors of the Railway Board the status of Ex-

Officio Joint Secretaries to Government. (Paragraph 2.13)

*(11) The present tenure of the Chairman and Members of the Railway Board is five years but in practice no Chairman has held the office for more than three years. If need be, extension of service should be given to complete the tenure of five years. There should, however, be no renewal of the tenure. (Paragraph 2.15)

*(12) While Railways will have to act within the framework of the Constitution and the fundamental labour laws enacted from time to time, railways should not be fettered with modifications or circulars issued by other Ministries from time to time. (Paragraph 2.16)

(13) The railway organisation is basically sound, but we cannot help observing that the authorities at the higher levels have been too much engrossed in details of minor importance, with the result that they do not get time enough to attend to the major issues. Much of it is due to questions raised by Members of Parliament, mostly on personal matters and the attention that has now to be given to influential parties. (Paragraph 2.17)

* (14) Political interference with the day-to-day working of the railways is having a serious impact on the workload at all levels of the management and is undermining the discipline which is of paramount importance for efficiency and safety. We, therefore, consider it our duty to sound a note of warning that, unless the highest sovereign body in the country, namely, Parliament, decides to observe a self-denying ordinance in respect of internal and routine

....matters,

matters, whatever the improvements we may suggest, they are not likely to prove fruitful. If this highest authority lends its positive support to the efforts to tighten discipline, it would indeed be of immense value. (Paragraph 2.19)

(15) Public opinion must be built up and conventions established to avoid interference in the day-to-day working of the railways. (Paragraph 2.19)

(16) We recommend that the General Managers need not be present at the meetings of the Informal Consultative Committees of the Parliament that are held twice a year. (Paragraph 2.20)

(17) The existing forums like the Informal Consultative Committee of Parliament, the National Railway Users' Consultative Council, **Zonal Railway Users'** Council and the Divisional Railway Users' Council should suffice and no addition is needed. (Paragraph 2.22)

*(18) Representations received by the Ministers in regard to minor punishments, transfers, postings, promotions etc. should be passed on to the railway authorities for disposal and there should be no interference with the decision of the zonal railways. (Paragraph 2.23)

(19) For an efficient and effective management, it is necessary that the functions, responsibilities and powers at the three levels, namely, the Railway Board, the General Manager and the Divisional Superintendents or District Officers should be defined as clearly as possible so that each of them may function in accordance with his assigned role and be accountable for what he does. (Paragraph 2.25)

(20) The functions of the Railway Board have been defined in para 2.26. (Paragraph 2.26)

*(21) Consistent with the functions mentioned in para 2.26, the Railway Board should delegate more powers to the zonal railways. (Paragraph 2.27)

(22) There should be a periodical review of items of expenditure, like fuel and oil consumption, cost of repairs and maintenance, inventory control and other important matters by a committee consisting of the Director, Finance and concerned Directors in the technical directorates. Such a review should be placed before the full Board for their critical examination. (Paragraph 2.28)

*(23) An officer-oriented pattern of working has been suggested and the Railway Board should constitute an expert study team to go into this question. (Paragraph 2.29)

(24) The Railway Board should not concern itself with too much of details as to what happens on the railways. If too many details are called for, a feeling of interference is apt to dilute the sense of responsibility in the minds of senior officers on the railways. (Paragraph 2.29)

(25) The Board should set up a committee consisting of the Secretary and three Directors to scrutinise the list of returns and other information and the statements that are now and again called for from the railways and curtail the list to the bare essential information required by the Board.

(Paragraph 2.30)

(26) To promote efficiency and a better appreciation of

problems of the zonal railways, officers of the Railway Board Secretariat Service should be periodically deputed to the railways to gain first hand knowledge of work in the field. (Paragraph 2.31)

(27) The Railway Board and the General Managers should take good care to see that every officer in junior and senior scales gets a fair share of experience of field work. It is not desirable to allow young officers to remain attached to the Headquarters or the Railway Board considerably for a long time so as to deprive them of field knowledge. (Paragraph 2.32)

(28) Scrutiny of the proposals emanating from zonal railways and production units should start with the Joint Director in the Railway Board - not anyone lower down. Any decision to turn down a railway's proposal should be taken only by an officer of not less than a Director's status. All important cases should be brought to the notice of the Member concerned. (Paragraph 2.33)

(29) Certain suggestions regarding the strength of officers in the Railway Board are given in Annexure II/2. (Paragraph 2.34)

(30) The Railway Board does not seem to have a team of management service personnel to examine the various fields where economy is possible. The Efficiency Bureau in the Railway Board should be re-organised under a capable and senior Director possessing an analytical mind. It should have an economist, a statistician and an operational research expert in addition to the other technical officers. (Paragraph 2.35)

CHAPTER III - ZONAL RAILWAYS

(31) We have found that at present every zonal General Manager

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is over-worked and too much engrossed in minor matters. A substantial portion of the work arises out of matters raised in Parliament and references received from the Railway Board in connection with letters addressed by the Members of Parliament or influential parties to the Ministers, mostly on personal matters. (Paragraph 3.04)

(32) Elimination of unnecessary references from the Railway Board has been emphasised. (Paragraph 3.06)

(33) The labour problem is essentially an internal affair of the railways, but at times intervention of higher authorities causes complications. It is, therefore, suggested that full opportunity should be afforded to the General Managers to settle their own affairs, locally. (Paragraph 3.07)

*(34) The powers of General Managers should be suitably enhanced and covered by a revised 'negative' schedule, specifying only what they are not authorised to do. They should be authorised to delegate these powers suitably to lower authorities. (Paragraph 3.08)

*(35) We do not appreciate a position where a Head of the Department can refer a matter to the Railway Board against his General Manager's decision. We, therefore, consider that this special privilege of the Financial Adviser should be withdrawn; and that, if the Financial Adviser & Chief Accounts Officer feels strongly that the subject matter on which he has been over-ruled will have wide repercussions on other railways, he should request the General Manager to make a reference to the Railway Board. In such circumstances, the General Manager

.....should

should make it a point to get the advice of the Board.

(Paragraph 3.09)

(36) Each General Manager should be asked to attend a special meeting with the Board once every quarter of the year, when the Board should discuss with him the operational performance, financial results and other problems of importance pertaining to his railway, and jointly evolve methods for improvement. (Paragraph 3.10)

*(37) At the Zonal Railway Headquarters there are far too many departmental heads reporting to the General Manager. We do not consider it feasible to introduce a radical change in a well established and well tried out managerial pattern, particularly so, when such a change will add to the expenditure. We recommend that major Heads of Departments may be designated as Principal Officers and they should directly report to the General Manager. Other Heads of Departments will be attached to the different Principal Officers, with whom they have a close link.

(Paragraphs 3.11 & 3.12)

(38) The arrangement proposed on the zonal railways will be more or less a replica of the Railway Board pattern, and there should therefore be no difficulty in working to this managerial pattern on the zonal railways. (Paragraph 3.13)

*(39) The powers of Principal Officers, Heads of Departments and Divisional Superintendents should also be reviewed so that they may suitably be enhanced with a view to give further relief to the General Manager. (Paragraph 3.14)

(40) Much of the benefit accruing from a larger delegation of powers will be negatived unless the delegating authority insists on the delegated powers being exercised fully by the officers

.....concerned

concerned and refuses to succumb to the temptation of giving unwanted guidance and more so of interfering with the day-to-day work of the subordinate authorities. (Paragraph 3.14)

(41) In the Personnel Department, selection of officers for posting to the branch leaves much to be desired. The Chief Personnel Officer should see to it that only capable officers are posted to the branch and that they have some continuity of tenure. (Paragraph 3.15(i)

(42) In the Commercial Department also the quality of officers should be improved. The impression that we have gained is that in most cases officers found wanting on the Transportation side are transferred to the Commercial. This is a wrong approach. Commercial work is of a specialised nature and is extremely important for the development of traffic and giving satisfaction to the customer. (Paragraph 3.15(ii)

(43) While we do not suggest a complete separation of the Commercial and Transportation cadres at this stage, we consider that after the officers recruited to the Class I Service have gained sufficient experience in both these Departments for 6 to 7 years, an equitable distribution should be made between the two Departments by mutual agreement between the Chief Operating Superintendent and the Chief Commercial Superintendent.

(Paragraph 3.15(ii)

(44) We consider that for the time being, it will be worthwhile continuing the present system of combined recruitment from the Jamalpur (Special Class Apprentices) Training School as well as the Union Public Service Commission. After these officers have worked for about 4 or 5 years in both the Departments, an equitable distribution should be made between

the Workshop cadre and the Maintenance (Running) cadre, on the same lines as indicated in the case of Transportation and Commercial officers. (Paragraph 3.15(iii)

(45) We consider that it will be worthwhile intensifying the check and supervision of fuel and oil consumption on the Railways. We, therefore, suggest that the post of Fuel Officer should be upgraded to that of a Deputy Chief Mechanical Engineer on major railways where the Deputy Chief Mechanical Engineer (Running & Loco) is so pre-occupied that he cannot pay sufficient attention to this subject. (Paragraph 3.15(iv)

(46) We also suggest that assistant officers should be posted to regulate the storage and supply of diesel oil at the various depots. (Paragraph 3.15(v)

(47) We consider that a separate Divisional Mechanical Engineer (Carriage & Wagon) should be posted practically in every Division. (Paragraph 3.15(vi)

(48) We suggest that a workshop employing about 2000 workers should be placed under the charge of a Deputy Chief Mechanical Engineer and bigger workshops under a Deputy Chief Mechanical Engineer of the grade of Divisional Superintendent.

(Paragraph 3.15(vii)

(49) Generally speaking, the pattern which seems to have developed on railways provides every Deputy Chief with a senior scale officer to assist him. This is not desirable.

(Paragraph 3.15(ix)

(50) Problems requiring consideration at the higher level should alone be referred to the Headquarters by the Divisions or the Workshops and these should be dealt with by the Head of

the Department or his Deputy. We, therefore, think that a detailed investigation is necessary in this respect and some of the senior scale posts on the Headquarters may be reduced.

(Paragraph 3.15(ix)

(51) There should be a greater liaison with the Press and a more informative publicity should be arranged.

(Paragraph 3.15(x)

(52) In all the Heavy Divisions there should be a Deputy Chief Mechanical Engineer in place of a senior scale District Mechanical Engineer and Dy.COPS in place of DOS.(Para 3.15(xi).

(53) With the changes advocated by us in the system of working, it would appear reasonable to reduce the strength of senior scale officers in the zonal headquarters and have a corresponding increase in their strength in divisions, where the focus of supervision should lie in future.

(Paragraph 3.15(xii)

(54) An additional post of Superintendent, Way & Works, in the Junior Administrative grade, should be created in heavy Divisions to coordinate the work of the Divisional Executive Engineers; he should also have another senior scale officer to assist him for modernisation of track maintenance and bridges.

(Paragraph 3.15(xii)

*(55) We recommend that the Northeast and Northeast Frontier Railways should also be divisionalised so that efficiency could be improved. (Paragraph 3.15(xiv)

*(56) We do not consider that the creation of Deputy Divisional Superintendents' posts on some of the Divisions to assist the Divisional Superintendents is a satisfactory

......arrangement

arrangement. If the work load in a Division is so heavy as to warrant relief, the best course is to divide it up territorially into two. It should be possible to work out bifurcation of divisions functioning from the same headquarters, without any increase in the strength of clerical staff. (Paragraph 3.15(xv)

(57) As regards individual railways, our suggestions are contained in the Annexure III/5. (Paragraph 3.16)

CHAPTER IV - MANAGEMENT STRUCTURE-RECRUITMENT, TRAINING, AND CAREER PROSPECTS, ETC.

*(58) The present management structure, wherein the topmost executives combine the managerial, secretarial and technical functions, is the most suited for a vast public sector undertaking like the Railways. (Paragraph 4.01)

*(59) A continuous stream of hard working, efficient, honest and devoted railwaymen has to be built up and this can be made possible only if the railwaymen at all levels are well looked after, and are happy, contented and can look forward to their future with confidence and satisfaction. (Paragraph 4.02)

(60) From our visits to the headquarters of railways and other important centres of activity, as also from a study of the representations received from the officers' associations, we have gained an impression that there is a feeling of frustration amongst all categories of officers and the supervisory staff, which, we are afraid, is gradually undermining their morale.

(Paragraph 4.03)

(61) The present ratio of officers to staff in the major departments of the railways is very low, compared with other

Government departments. (Paragraph 4.04)

(62) The percentage of posts in the Junior Administrative grades of Rs.1300-1600 and above is low in the Railways as compared with that in the other Government departments. (Paragraph 4.05)

(63) The emoluments normally drawn by officers of different lengths of service in the major departments on the Railways as compared with those drawn by officers in other Government departments are lower. (Paragraph 4.06)

(64) The bulk of the top students from universities seem to prefer private industries and the public sector on the grounds of better pay, perquisites and prospects; and many of them even do not appear in the U.P.S.C. examinations. This is a cause for concern and steps should be taken to attract the best talent for the railway services. (Paragraph 4.08)

*(65) In order to maintain a good standard in the railway services, chances of promotion and the proportion of higher grades have to be substantially improved, since these seem to be the main reasons for candidates preferring the other services. (Paragraph 4.09)

(66) It is seen that persons who have joined the railway service after passing the competitive examinations in 1947 are still in the senior scale. Meanwhile, their contemporaries who had joined the other services are appointed to higher posts. (Paragraph 4.10)

*(67) The senior scale on railways starts at Rs.700/-, with a service of 6 years and under. We recommend that the starting salary of the senior scale should be Rs.900/-. The maximum of the grade and the incremental scale will remain as they are. (Paragraph 4.11)

....(68)

*(68) Certain posts, mentioned in para 4.12(i) to (v), in the Divisions should be upgraded to Junior Administrative posts. By strengthening of the divisional organisations with a Junior Administrative officer for the major departments, it will be possible to reduce the extent of references necessary to the headquarters office, which in turn can, in the course of time, reduce the size of the ministerial staff in the headquarters office. (Paragraph 4.12(i to v)

*(69) Promotions to Junior Administrative grade are at present made by the Railway Board. The Railway Board's powers to promote officers to the Junior Administrative posts may be delegated to the General Managers and this will reduce considerable work in the Railway Board. (Paragraph 4.13)

*(70) The responsibilities of a Divisional Superintendent are very heavy and of a complex and diversified nature. These responsibilities are in no way less than those of officers holding Schedule 'D' appointments in the public sector. We recommend that there should be only one grade for Divisional Superintendents and this should be Rs.1800-100-2000 till such time as the pay of the heads of departments is revised upwards. (Para 4.14)

*(71) The Federation of Railway Officers have represented to us that the parity which previously existed in the scales of pay of Heads of Departments with that of Joint Secretaries to the Government of India, should be restored. While we do not propose to go into this question, this is brought to the notice of the Government. (Paragraph 4.15)

*(72) The responsibilities of a General Manager on the Railways

.............are

are considered to be more than those of the Managing Director of even the largest public sector enterprise. While Schedule 'B' scale for top management posts in public sector undertakings is Rs.3000-125-3500, the pay of a General Manager on the Railways is fixed at Rs.3000. Government may consider how best a parity with the public sector could be maintained in the case of General Manager, consistently with his responsibilities. (Paragraph 4.16)

*(73) We recommend that all Directors in the Railway Board should be placed in the same grade. (Paragraph 4.17)

*(74) While the pay of the Chairman of some of the public sector undertakings in Schedule 'A' appointments is Rs. 3500-4000, the pay of the Chairman, Railway Board, who is the head of the largest industrial undertaking in the country, is only Rs.3500. This is brought to the notice of the Government. (Paragraph 4.18)

*(75) The weightage given to seniority for appointments to selection posts is sometimes quite disproportionate to merit. The posts of Divisional Superintendents, Heads of Departments, Principal Officers, General Managers, Members and Chairman of the Railway Board are key posts and considerable care should be exercised in selecting officers of outstanding merit for these posts. (Paragraph 4.19)

*(76) The Railways should establish a management development programme like the one followed by the British Railways, for higher appointments. (Paragraph 4.19)

(77) Confidential reports need to be more comprehensive

and detailed so as to enable a proper appreciation of the officer's work and ability being made. In this connection the appraisal sheet used on the British Railways may also be studied

...(Paragraph 4.21)

(78) A management development cell should be set up unde the Secretary, Railway Board. (Paragraph 4.22)

(79) The Railway Board should form separate panels to fill up vacancies during the course of the year for the posts of Divisional Superintendents and Principal Officers on the Railways.

(Paragraph 4.23)

(80) For the posts of General Managers, the Chairman, Railway Board should draw up a panel after discussions with other Members of the Board at a Board meeting. (Paragraph 4.24)

*(81) It is not desirable that there should be frequent transfers of key management personnel. We would emphasise the necessity of keeping officers in key posts long enough to enable them to grasp the intricacies and specialities of their particular assignments.

(Paragraph 4.25)

(82) For an organisation like the railways, there should be adequate training facilities for railway officers at various stages of their career. (Paragraph 4.26)

(83) We feel that some rationalisation of training facilities is needed. Before any further expansion is permitted either in the Baroda Staff College or the Poona School, the possibility of establishing a combined institution at Lucknow should be carefully looked into. (Paragraph 4.27)

*(84) Deserving Class III employees should have opportunities to rise to higher posts. Young men of merit should, therefore, be given opportinity for training and taking up special promotion courses and qualify themselves by passing the prescribed tests for promotion to Class II.

(Paragraph 4.28)

*(85) Ten per cent of the total number of posts in the Rs.450-575 grade should have a maximum rising upto Rs.700. In addition, one per cent of the total posts in the present Rs.450-575 grade should be vested with honorary gazetted rank.

(Paragraph 4.29)

*(86) The Railway Board should periodically review what further improvements in the avenues of promotion of Class III and IV staff can be effected.

(Paragraph 4.30)

*(87) It is necessary to determine the categories and number of staff that are likely to be rendered surplus on individual railways and as to how best they could be absorbed in alternative employment, after

...suitable

after suitable training. For this purpose, special training programmes should be started.

(Paragraph 4.31)

(88) To the extent that future developmental works will require additional officers, temporary officers should be absorbed on a permanent basis.

(Paragraph 4.32)

(89) 25 per cent of the vacancies that arise in Class III and IV posts should be filled by General Managers from amongst the sons of railway employees.

(Paragraph 4.33)

(90) A system of merit marks for good work, somewhat on the lines of the Brown System of Discipline, may be considered.

(Paragraph 4.34)

(91) We consider that periodical transfers of staff who come into contact with public upset the morale as also the loyalty of staff and only if there are specific proved complaints should such transfers be ordered, taking into consideration all aspects of the work of the employee.

(Paragraph 4.35)

*(92) Special care should be taken in respect of recruitment and training of personnel officers. The Personnel Branch on Railways should be placed on a footing similar to other major Departments of the Railways. Personnel Officers should not be changed frequently.

(Paragraph 4.37)

...... Chapter V

CHAPTER-V — OPERATION

(93) The density of freight traffic on the Indian Railways, which is fairly high, compares favourably with that in advanced countries. (Paragraph 5.13)

(94) Judged from the figures of freight traffic and the high density of passenger traffic and an out-moded signalling and communication system which remains frequently ineffective, the performance of Indian Railways is decidedly impressive. (Paragraph 5.14)

(95) Lawlessness, to which the Indian Railways are an easy prey, has been a great handicap.(Paragraph 5.15)

(96) The demand for additional suburban trains, which could not be reasonably fulfilled, was pressed home by resorting to stoppage of trains.(Paragraph 5.16)

*(97) Governments at the Centre and in the States should apply their minds as to how the public opinion may be mobilised with a view to tackling this law and order problem. (Paragraph 5.18)

(98) Reasons for drop in wagon kilometres on the Central, Northern, Southern and Western Railways are analysed in para 5.20(a) to (d). (Paragraph 5.20)

(99) Causes which have led to a drop in wagon kilometres per wagon day are remediable and Railways should take effective steps to remove them. (Paragraph 5.21)

(100) We do not favour a large cushion of wagons and consider that the objective should be to meet the unforeseen fluctuations of traffic by better utilisation of wagons and better methods of chasing.(Paragraph 5.22)

(101).....

*(101) As regards heavy foodgrain movements, no railway system can allow its wagons to be utilised as Store Houses, nor can storage be provided in goods sheds for a large volume of foodgrains. The Food Ministry or the Food Corporation should arrange to provide storage godowns or silos to hold buffer stocks. Coal dumps should be created to even out the requirement of wagon. (Paragraph 5.23)

(102) The marshalling of wagons for the farthest point, consistent with the availability of traffic, should be aimed at. (Paragraph 5.24)

(103) Continuous study should be made to eliminate stoppage of goods trains or the hold up of wagons at intermediate points. (Paragraph 5.25)

*(104) Important and key **yards** should be well equipped and preferably mechanised. (Paragraph 5.26b)

(105) The object should be to centralise the marshalling work at the key yards located close to the points of origin of traffic. (Paragraph 5.27)

(106) A considerable empty haulage of wagons to the ports and transhipment points was involved in the food movements, which apparently contributed to a drop in the percentage of loaded movement. A close watch should be maintained on empty haulage and average wagon loads. (Paragraph 5.28)

(107) It will be noticed that the performance of steam engines has deteriorated. The problem is essentially one increasing the speeds of trains and judicious scheduling of slower services. (Paragraph 5.29)

(108).....

(108) The tendency to keep a larger number of engines in circulation than actually required is uneconomical and should be discouraged. (Paragraph 5.29)

*(109) Diesel and electric locomotives should give an output of 700 kms. per day per engine on line. (Paragraph 5.30)

(110) To ensure efficient maintenance of electric engines, a closer officer-oriented supervision by experienced electrical engineers is necessary. (Paragraph 5.31)

(111) The hauling capacities of different types of engines on various sections should be carefully determined by actual trials and the train loads adjusted accordingly. (Paragraph 5.34)

(112) We consider that the policy of allocation of engines for different services should be reviewed by the Railway Board and their allocation should be made so as to produce the maximum output. (Paragraph 5.35)

(113) It is noticed that speeds of trains hauled by steam engines have gone down appreciably. Compared with the best results obtained in 1960-61, the present results indicate a drop of 3.4 kilometres which constitutes 18%. (Paragraph 5.37)

(114) The average speed of diesel or electric trains falls in the range of 17 to 26 Kms. per hour. (Paragraph 5.38)

*(115) Since the maximum permissible speed of 4-wheelers is 45 miles (67.5 Kms.) an hour, the scheduled speed of goods trains should be raised to this level, in particular of trains that are hauled by electric or diesel engines. (Paragraph 5.38)

*(116) The Railway Board should examine whether ordinarily four-wheeler brakevans could be allowed to run at 80 Kms. per hour on trains consisting exclusively of bogie stock so that full advantage of dieselisation or electrification and bogie stock may be obtained. (Paragraph 5.38)

consider that disbanding of the Hot Boxes Organisation in the Railway Board was premature.(Paragraph 5.38-xii)

(118) It should be the Railways' aim to achieve an average speed of 25 to 30 miles an hour for diesel and electric trains on the broad gauge, which may be further improved when maximum permissible speed goes beyond the existing limit of 45 M.P.H. (Paragraph 5.38-xiii)

*(119) We feel that the metre gauge problem should be viewed from a different standpoint. If the large population of these areas is to be gainfully employed, industrialisation is imperative. We must, therefore, improve the railway system in these areas so that industrialists may not be inhibited from establishing new industries. In addition the strategic value of these systems for national security should also be fully taken note of. The entire Himalayan border is now vulnerable. So is the Rajasthan border with Pakistan. These areas are served by the metre gauge and so is the coastal belt in the South. (Paragraph 5.41)

*(120) The cost of operation per ton Km. on the metre gauge is 5.42 paise as against 3.30 paise on the broad gauge. The disparity in the cost of operation, coupled with the future prospects and social needs, are pointers in favour of conversion of the metre gauge into broad gauge. We recommend that annual investment of about Rs.10 crores should be set apart

for this purpose so that about 200 Kms. may be converted yearly. Judging both from commercial and strategic angles, we consider that the following sections merit consideration for conversion to broad gauge —

a) Barauni - Katihar.
b) Barabanki - Gonda - Gorakhpur-Chapra - Barauni.
c) Bhatinda - Suratgarh - Bikaner.
d) Cochin - Trivandrum - Tuticorin.
e) Viramgam - Okha.

(Paragraph 5.42)

(121) The Railways and Port authorities should maintain close coordination and work in concert so that traffic may move freely. (Paragraph 5.43)

(122) In our opinion, wagon holding inside the Port area should not normally exceed 2 to 2½ times the total incoming and outgoing traffic. (Paragraph 5.44)

CHAPTER-VI — CIVIL ENGINEERING

*(123) In view of the increasing expenditure year by year, it is very necessary that modern techniques and improved methods for maintenance are adopted not only to effect economy in expenditure but also to maintain the assets in a satisfactory state of repair, under steadily increasing density of traffic. (Paragraph 6.02)

(124) Better track standards have to be adopted now on account of the additional strain on the permanent way brought about by the use of the more powerful diesel and electric locomotives and heavier bogies and other types of wagons. (Paragraph 6.04)

(125).....

(125) Both from the economic and operational point of view, the Railways should pursue vigorously their programme of track strengthening and track modernisation. (Paragraph 6.04)

(126) We find that the Railway Board has recently issued directives to the various zonal railways that the available funds should be utilised for ballasting the trunk routes and main lines in preference to branch lines. This is a move in the right direction and we hope that with the steps taken by the Railway Board to rationalise the specifications for stone ballast, adequate supplies will become available and that ballasting programmes will go ahead quickly and purposefully. (Paragraph 6.05)

*(127) It is found that the life of even the creosoted soft wood sleepers is only about 8 to 10 years and in some localities even less and this leads to frequent renewals and disturbing of track bed which then takes considerable time to settle down. The intake of soft wood sleepers should, therefore, be restricted only to such quantities as can be properly creosoted. (Paragraph 6.06)

*(128) Experience has shown that CST-9 (Cast Iron) Sleepers have also to be removed on certain heavy density routes in less than 20 years and in addition are not suitable for track circuiting and automatic signalling. Therefore, the Railways have to go in for concrete sleepers in a big way and we suggest that they should draw up a programme for an annual relaying of at least 150 miles with concrete sleepers on the trunk routes, progressively increasing the pace, as the availability of concrete sleepers increases. (Paragraph 6.07)

(128)....

(129) We understand that a stage has now been reached when concrete sleepers can be expected to go into production during the course of the present year. We also understand that a great advance has been made by the Research, Designs and Standards Organization in developing a new type of elastic fastening. (Paragraph 6.07)

(130) The use of long welded rails and concrete sleepers should provide an ideal solution to many track problems. (Paragraph 6.08)

(131) In foreign countries where directed maintenance has been in operation, considerable economies have been effected and, at the same time, improved track conditions achieved. It is understood that the Railway Board has taken steps to introduce directed maintenance as an experimental measure on one of their trunk routes.(Paragraph 6.09)

(132) The Railways have made a beginning in regard to machine maintenance and measured shovel packing. Since satisfactory results have been reported, these methods should be extended to cover the important trunk routes as early as possible. (Paragraph 6.09)

*(133) It is quite possible that with the adoption of new methods of maintenance, the employment potential in the category of gangmen may be somewhat reduced, but considering economies and the increased avenues of promotion that will result for this category of staff, it is hoped that there will be no opposition to the introduction of such improved methods. (Paragraph 6.10)

(134)....

*(134) It appears essential that there should be a Track Cell attached to each railway. The Track Cells must make comprehensive plans to make an efficient and regular use of the welding plants, track maintenance machines, ultrasonic flaw detectors and all the available track recording cars. (Paragraph 6.11)

(135) Simultaneously with the adoption of improved methods of track maintenance, Railways should also take steps to rehabilitate weak formations on some of the important routes. (Paragraph 6.12)

CHAPTER-VII — MECHANICAL ENGINEERING-REPAIR AND MAINTENANCE OF ROLLING STOCK

*(136) In the context of the changing pattern of holdings and the growing dieselisation and electrification, the whole problem of the maintenance and periodical overhaul of rolling stock has to be reviewed so that the work of rolling stock repairs may be redistributed more rationally amongst the various workshops. (Paragraph 7.02)

(137) Existence of about 48 mechanical workshops on the railways has led to multiplication of repair arrangements, multiplicity of costly equipment and a diffused stocking of spare parts and materials which inevitably builds up inventories. (Paragraph 7.03)

(138) We consider that it is high time that workshop organization is taken up with sufficient forethought, imagination and coordinated planning to obtain optimum

*(139) Mr. Michael Dehm, Director of Productivity, German Federal Railways, examined the working of the repair workshops of the Indian Railways in 1958, and made certain valuable suggestions. These are given in para 7.04 (i to xiv) and we consider that this report should be quickly re-examined and implemented to the extent found feasible. (Paragraphs 7.04 to 7.06)

*(140) The modern trend in foreign countries is to delink the operating units from repair workshops and to introduce centralised control over them. We recommend that the Railways should follow this pattern and, to start with, the Kanchrapara and Khargpur workshops should be placed under the control of the General Manager, Chittaranjan Locomotive Works and the General Manager, Diesel Locomotive Works, respectively. (Paragraph 7.07)

(141) Advance planning should be made to make use of suitable steam loco workshops, which will be released as a result of dieselisation and electrification for the purpose of doing P.O.H. to coaching stock and wagons and thereby the need for putting up new workshops for this purpose may be obviated. (Paragraph 7.09)

(142) Some of the smaller steam locomotive shops that may be found surplus should be disposed of (Paragraph 7.10)

(143) Wherever electrification and dieselisation have proceeded substantially, the question of closure of some of the steam sheds should be pursued with urgency on a rational basis. (Paragraph 7.11)

(144) The staff strength for the maintenance of steam locomotives on the Railways should also be progressively adjusted in relation to the degree of utilisation of these locomotives. (Paragraph 7.11)

(145) Any proposal for new diesel sheds should be viewed with caution and if practices in countries like the U.S.A. are any guide, it should be our endeavour to manage with as few diesel sheds as possible. (Paragraph 7.12)

(146) In respect of day-to-day problems of maintenance of the rolling stock on the zonal railways, we suggest that work study teams should be periodically constituted to visit and make a detailed investigation of the work that is being done in the loco sheds and sick lines with a view to improving the methods and effecting economy and efficiency. (Paragraph 7.13)

*(147) We recommend that all the work connected with the maintenance of electric locomotives and the electrical components of diesel locos should be centralised under one authority, who may be redesignated as the Chief Traction Engineer. A stage for this redesignation would be reached when the present Chief Mechanical Engineer is relieved of his workshop responsibilities. The Chief Electrical Engineer will then only be responsible for the maintenance of fixed assets and supply and distribution of power. The Chief Traction Engineer may be a Mechanical or an Electrical Engineer. (Paragraph 7.14)

(148) It will be necessary to build up a cadre of Traction Engineers with knowledge of both the mechanical

and electrical branches. For this purpose, uates who are recruited through the U.P.S.C. as also the special class apprentices trained in Jamalpur, should be given an intensive course, during their period of training, in the maintenance of all the three types of traction, namely steam, diesel and electric. (Paragraph 7.15)

(149) The costing technique in vogue in the workshops should be improved and brought on par with the procedure followed in the Chittaranjan Locomotive Works. (Paragraph 7.16)

(150) With the rationalisation, which has been proposed, it should be possible to introduce batch costing for identical types. (Paragraph 7.17)

CHAPTER-VIII — SIGNALLING & TELECOMMUNICATIONS

(151) With the steady increase that is taking place in the number of sections that are being diesclised and electrified, the provision of automatic signalling on such sections will result in improved operation. (Paragraph 8.02)

*(152) We recommend that the Railways should embark upon a long term integrated plan for the modernization of their signalling. (Paragraph 8.03)

(153) We are satisfied that the indigenous manufacture of modern signalling equipment in the country is practicable and suggest that the Railway

Board should make very early arrangements for its manufacture. (Paragraph 8.04)

(154) The Research, Designs and Standards Organization should take effective steps to develop research with a view to evolving improved designs for the signalling equipment needed by the Railways. (Paragraph 8.05)

*(155) An annual plan for the modernization of signalling has been suggested. (Paragraph 8.06)

(156) We are glad to learn that automatic train control equipment is being installed on the Sealdah-Burdwan and Gaya-Moghalsarai sections of the Eastern Railway. With the increasing density of traffic and speed of trains, it is very necessary to have this safety device installed on important sections where density is heavy and speeds are high. (Paragraph 8.07)

(157) We suggest that the electrical control arrangements should be devised for the operation of out-lying points to colliery sidings so as to eliminate the existing time - consuming arrangements for their manual operation by the use of keys. (Paragraph 8.08)

(158)The Railways should embark quickly on an intensive programme for the training of existing staff. (Paragraph 8.09)

*(159) An efficient communication system is an essential pre-requisite to the proper regulation and control of movement of traffic. (Paragraph 8.10)

(160) Large scale theft of copper wires is affecting the railways' communication system.(Paragraph 8.10)

(161).....

(161) Railways should undertake a crash programme of replacement of copper wires by ACSR conductors so that the problem of theft can be minimised. (Paragraph 8.12)

*(162) An extensive micro-wave network connecting the railway headquarters and principal operation points will lead to efficient operation and control. The Railways have now launched a scheme for such a micro-wave network, which we suggest should be executed during the ensuing plan.

(Paragraph 8.13)

(163) With a better tele-communication system and wagon control programme, quicker transit and better service to the customers will be possible. (Paragraph 8.14)

*(164) Limitations of finance should not stand in the way of providing an efficient communication system for the Railways.

(Paragraph 8.15)

CHAPTER IX - RAILWAY SAFETY

(165) The progress made in the implementation of the Railway Accidents Committee's recommendations is given in para 9.03.
(Paragraph 9.03)

(166) Railway Board have not accepted 22 recommendations and the broad categories into which these 22 recommendations fall are given in para 9.04. (Paragraph 9.04)

(167) The reasons given by the Railway Board for not accepting these 22 recommendations are given in Annexure IX/9.

(Paragraph 9.04)

(168) Details of the two recommendations that are still under examination are given in Annexure IX/9. (Paragraph 9.04)

*(169) Considering the paramount need for improving the discipline on the Railways, recommendations contained in items

50, 62 and 65 are very vital and we suggest that the Railway Board should re-examine them once again for implementation.
(Paragraph 9.04)

(170) While there has been improvement in the percentage of staff who attended refresher courses out of those who are due to attend, we feel that the Railways should take vigorous steps to improve the percentage still further. (Paragraph 9.05)

*(171) We suggest that the Psycho Technical Cell attached to the Railway Board's office should make a study of the personality characteristics of drivers and station masters, who have been involved in collisions and see whether any pattern emerges in regard to their recruitment, their age groups or their educational standard, which may point to the need for remedial steps. (Paragraph 9.06)

(172) We have gone through some of the inquiry reports on the recent collisions and we find that even on sections where track circuiting or automatic signalling has been provided, collisions have taken place because of the failure of the human element. This shows the paramount need for the staff to be vigilant and for the continuance of the safety drive in all directions.(Paragraph 9.07)

*(173) One of the reasons for the incidence of human lapses leading to accidents is the standard of discipline at various levels. (Paragraph 9.08)

*(174) In the interest of the safety of the travelling public, it will be an appropriate step to exclude railway employees connected with the safe running of trains from the purview of Article 311 of the Constitution, so that disciplinary action can be swift in the case of those who cause accidents and loss of human life. (Paragraph 9.08)

*(175) We recommend a system similar to the "Brown" System of discipline in force on the Canadian Pacific System for use on the Indian Railways. (Paragraph 9.08)

(176) A feeling is prevalent among the staff that even if they do not work satisfactorily, they can get away with it either lightly or altogether by taking advantage of the dilatory procedures or by bringing outside influence.

(Paragraph 9.09)

(177) It is not su[illegible]at the recent spate of accidents is entirely due to a fall in discipline standard, but we cannot completely rule out this factor from our consideration.

(Paragraph 9.09)

(178) It has to be impressed on the staff and officers that they should adopt constitutional methods to get their grievances redressed and should not try to enlist the support of an outside agency for this purpose. (Paragraph 9.10)

*(179) The existence of multiplicity of rival unions in the Railways with supervisory and other staff drawn into their fold as office bearers creatss unhealthy tendencies amongst the office bearers and active workers of the unions. We reiterate the recommendations of the Railway Accidents Committee that senior supervisors should be debarred from becoming office bearers of the unions. We urge the unions not to take up an agitational approach in staff matters including individual cases but to settle matters with the administration through constitutional means available to them. (Paragraph 9.11)

CHAPTER X - RESEARCH, DESIGNS & STANDARDS ORGANISATION.

(180) The future of the Indian Railways lies in modernisation and introduction of improved techniques for efficient operation

and for greater safety. The Research,**Designs & Standards Organisation** has, therefore, a very important part to play. (Para 10.01)

(181) Functions of the R.D.S.O. have since been enlarged and diversified on the lines suggested by the Railway Accidents Committee. (Paragraph 10.02)

(182) The R.D.S.O. has to function as technical adviser to the Railways and thus its activities span the entire field of railway engineering. (Paragraph 10.03)

*(183) For some time, the Central Board of Railway Research has been meeting only once a year. We have seen the minutes of some of its meetings. We are constrained to remark that there has been a gradual falling of the attendance of outside members and often only representatives, who are not high up in the profession, are sent. On the whole, the deliberations of the Central Board of Railway Research lead us to suggest that its working and that of its sub-committees should be revitalised. (Paragraph 10.04)

(184) While the programme of research and its priorities should be laid down by the Railway Board and the C.B.R.R., set up for the purpose, the Director General, Research,Designs & Standards Organisation should not be restrained from undertaking any work on his own. (Paragraph 10.04)

*(185) It is necessary that the work of the R.D.S.O., as a whole,should be periodically reviewed by the Railway Board in great detail. The Committee found that recently the whole Board visited the Research, Designs & Standards Organisation and spent considerable time in assessing the work and giving guidance on the spot. (Paragraph 10.06)

*(186) We have been disappointed to note that the first review of the activities of the R.D.S.O. to Parliament did not contain any worthwhile evaluation of the research activities of the R.D.S.O. made by the Central Board of Railway Research or by the Railway Board. We recommend that a suitable evaluation technique should be developed and the Central Board of Railway Research should comment on the activities of the R.D.S.O. and its evaluation. This review should then be placed before the Parliament once in 3 years with the Railway Board's comments. (Paragraph 10.06)

*(187) It would be advantageous if a highly qualified mathematician, an industrial chemist, and a physicist, who is a specialist in electronics, are appointed in the Research, Designs and Standards Organisation as early as possible. With their knowledge and experience in fundamental research they will supplement the applied research work undertaken by the Railway Engineers. (Paragraph 10.08)

(188) As the activities are further enlarged, the Railway Board should unhesitatingly increase the strength of technical officials as required. In respect of non-technical personnel, the Railway Board should examine whether there is need for such a large number in the R.D.S.O. as at present.

(Paragraph 10.08)

(189) In the matter of equipment, the R.D.S.O. does not compare well with the institutions abroad. The R.D.S.O. should, therefore, take steps to build up the necessary equipment for the promotion of research. (Paragraph 10.09)

*(190) The R.D.S.O. has to develop further its laboratories

and equipment, and it should build up its cadre of expert research personnel. Unless this is done, technical development in various fields on the railways will be handicapped particularly when very little railway expertise is available in the country outside the railways. (Paragraph 10.10)

(191) Certain lines, on which the attention of the R.D.S.O. should be directed, have been emphasised in para 10.11. (Paragraph 10.11)

(192) It should be the policy of the Railway Board to invite foreign experts from other countries to visit the R.D.S.O. and to exchange ideas with them and review the lines on which investigations are being done. Notable scientists in India should be requested to visit the R.D.S.O. (Paragraph 10.12)

(193) The Documentation and Publication Section needs greater attention. This section should be placed under a technically competent Joint Director. (Paragraph 10.13)

(194) Staffing is an extremely important problem, as the progress depends entirely upon the quality of the personnel employed. Only such railway men, as possess a special aptitude and acumen for research work should be selected. (Paragraph 10.14)

(195) As regards the Directors and other officers and staff, the Director General, RDSO should be allowed sufficient discretion to pick up suitable personnel who should be readily spared by the railways. (Paragraph 10.14)

*(196) Continuity of tenure in an organisation of this nature is of prime importance. The question of seniority and emoluments should not hamper the research organisation

in recruiting the best talent available and getting the best out of them. (Paragraph 10.15)

*(197) We suggest that successful research workers may be allowed extension of service upto the age of 60 years and that in special cases they may even be allowed to continue beyond this age. (Paragraph 10.15)

(198) We would like to emphasise that even though due care may have been taken in making the first selection, the work of selected personnel should be carefully watched from the start and any one found unsuitable should be promptly returned. (Paragraph 10.15)

(199) There should be a periodical review once in 3 years of the work of every individual engaged in research and allied activities in the R.D.S.O. so as to assess whether the standard of his work merits any incentive. Such a procedure already exists in the Council of Scientific & Industrial Research. (Paragraph 10.17)

*(200) We note the recommendation of the Railway Accidents Committee that there should be continuity in the tenure of the Director General, R.D.S.O. We regret that this recommendation has not been heeded to. We urge that the policy advocated by the Railway Accidents Committee should be implemented in future. (Paragraph 10.18)

(201) Necessary facilities for the proper training of the research personnel so as to promote their knowledge of advanced scientific and technical subjects should be made available. (Paragraphs 10.19 & 10.20)

... It

(202) It is inappropriate that any technical recommendation or proposal of the R.D.S.O. should be examined and commented upon by any one lower in rank than a Director in the Railway Board.

(Paragraph 10.21)

(203) We consider that it will be prudent to widen the scope of the consultancy work that is being taken up by the R.D.S.O..

(Paragraph 10.22)

*(204) We reiterate the recommendation of the Railway Accidents Committee that it should be the Research, Designs and Standards Organisation who should certify new designs of locomotives and rolling stock. The Research, Designs and Standards Organisation is well equipped for this purpose, and, therefore, there is no point in having an overlap of functions between the R.D.S.O. and the Commissioner of Railway Safety. (Paragraphs 10.23 & 10.24)

*(205) In the matter of prescribing standards, it should be the R.D.S.O. that should advise the Railway Board and not the Commissioner of Railway Safety. (Paragraph 10.24)

*(206) The technical expertise of the R.D.S.O. and its status as a technical consultant and the top railway research organisation should be built up by adopting the policies suggested in earlier paragraphs. We hope that in this manner, the R.D.S.O. can earn recognition not only in this country but abroad also.

(Paragraph 10.25)

CHAPTER XI - STORES ORGANISATION

(207) The annual procurement of railway stores through the Director General, Supplies & Disposals comes to about Rs.100 to 120 crores. As per the existing procedure, Railways are

dependent on the Director General, Supplies & Disposals for supply of even essential items required for maintenance, delay in the supply of which holds up at times operations in the workshops and in the field. (Paragraph 11.03)

*(208) We consider that all items of stores, which are purchased only by the Railways and not by other Government departments, for example, items like rolling stock components, track fittings and tools, train lighting equipment, electric traction equipment and signalling equipment, should be taken over from the central procurement agency by the Ministry of Railways. The reasons for the above suggestion are given in Para 11.08. (Paragraphs 11.07& 11.08)

*(209) With the acceptance of our suggestion, some additional purchase work will devolve on the Stores Organisation o the Railways. We suggest that as far as possible this work should be passed on to the zonal railways, the Railway Board only bringing about the necessary co-ordination. (Paragraph 11.09)

(210) We consider that the system of inventory control should be modernised. The inventory holdings on the railways are of the order of Rs.140/- crores, which is considered high. Effective steps should be taken for bringing down this inventory. (Paragraph 11.10)

(211) Certain modifications and streamlining of stores procedures have been suggested in paras 11.11 to 11.14. (Paragraph 11.11)

CHAPTER XII - RAILWAY PROTECTION FORCE

(212) It is evident that the Railway Protection Force has not been effective enough and the results have not been commensurate with the large annual expenditure of over Rs.9

crores incurred on maintaining it. (Paragraph 12.02)

*(213) The General Manager, as the head of the zonal railway, should have effective control on the Railway Protection Force. It has to be appreciated that the Railway Protection Force is essentially a service organisation for the Railways.

(Paragraph 12.03)

*(214) The Chief Security Officer should be placed under the effective control of the General Manager. The appeals against the orders of the Chief Security Officer should be dealt with by the General Manager. (Paragraph 12.03(a)

(215) The Chief Security Officer should maintain a close liaison with and get guidance and direction from the Chief Commercial Superintendent in the matter of preventing thefts and pilferages and minimising claims. (Paragraph 12.03(b)

*(216) The Security Officers and Assistant Security Officers in the divisions should take orders from the Divisional Superintendent. The Divisional Superintendent should write the confidential reports of the Security Officers and Assistant Security Officers functioning under him and then forward them to the Chief Security Officer. (Paragraph 12.03(c)

*(217) In the railway workshops, the officers of the Railway Protection Force should be responsible to the Works Manager.

(Paragraph 12.03(d)

(218) The problem of thefts and pilferages constitutes an important cause of diversion of high rated traffic to the road despite favourable rail freights. The remedy lies in the R.P.F. officers and staff working in close liaison with the Operating

and Commercial Officers. (Paragraph 12.04)

CHAPTER XIII - ROLE OF VIGILANCE DEPARTMENT

*(219) It is considered that the present practice of referring the enquiry reports on complaints against officers to the Central Vigilance Commission should continue. (Paragraph 13.05)

(220)The departure from the Kriplani Committee's recommendation in the matter of consulting the concerned heads of departments is not a desirable change. (Paragraph 13.06)

(221) A comparison of the number of complaints enquired into and punishment inflicted after the present Vigilance Organisation came into existence with that of the position prior to it shows that although a larger number of enquiries were instituted against officers, the number of cases in which punishments were inflicted was much less. (Paragraph 13.06)

*(222) Since serious consequences follow the institution of a vigilance enquiry, it is necessary that the initial screening of the complaints should be done thoroughly so as to avoid innocent staff being involved in these enquiries.

(Paragraph 13.06)

*(223) We recommend that the arrangements suggested in the Kriplani Committee's recommendations should be restored.

(Paragraph 13.06)

(224) We consider that it is inappropriate for a judicial or a quasi-judicial body like the Vigilance Organisation to have informers, i.e. spies. Action taken against the complainants who make false complaints or give false information

.... appears

appears inadequate. (Paragraph 13.08)

(225) It would be desirable if the C.B.I. concentrated on the types of cases mentioned in para 13.10(a to d).

(Paragraph 13.10)

(226) The Vigilance Organisation should work in such a manne that bona-fide actions are not questioned. Unintentional lapses, errors of judgment or matters arising out of exercise of discretionary powers where evidence is lacking should be left to the care of the departmental authorities. (Paragraph 13.11)

*(227) The General Manager and his heads of departments have a leading role to play in prevention of corruption and nothing should be done which may create an impression in their minds that they have been relieved of this responsibility or that it has to any extent been diluted. In fact they should be judged by their success in keeping down corruption. (Paragraph 13.12)

*(228) The problem of prevention of corruption should be tackled on the following lines -

(i) A strong public opinion should be built against corruption. (Paragraph 13.13(i)

(ii) Anonymous and pseudonymous complaints should not be taken up for enquiry. In respect of signed complaints, the bonafides of the complainants should be first established. (Paragraph 13.13(ii)

(iii) People should be appointed to the high posts in the Railways only after making sure about their honesty and competence. When once selected and appointed, they should be trusted and made responsible fairly and squarely for weeding out corrupt persons. (Paragraph 13.13(iii)

(iv) The contents of a complaint should not be viewed in isolation without considering the full circumstances of the case and also the reputation and past performance of the person against whom the complaint has been made. It is only the head of the department who can examine these complaints in the above perspective and can tender advice as to the course of action. Vigilance officers should, therefore, invariably consult the head of the department or the controlling officer. (Paragraph 13.13(iv)

(v) In the event of difference of opinion between the Chief Vigilance Officer and the head of the department, the case should be referred to the General Manager, whose decision, whether an enquiry is to proceed against a Class II, III or IV staff or not, should be final. Cases of Class I officers should be referred to the Railway Board, where the Board Member should be consulted whether an enquiry is to proceed. (Paragraph 13.13(v)

(vi) A monthly statement of the complaints against officers which have been filed after preliminary scrutiny should be sent to the Chief Vigilance Commissioner for his information and any instructions received from him for pursuing any of these cases should invariably be complied with. (Paragraph 13.13(vi)

(vii) Action must be taken in all cases against the sources or the complainants who have falsely implicated a railway official. (Paragraph 13.13(vi)

(viii) Cases of alleged misuse of discretionary powers should be left to be handled by the concerned executive authorities. (Paragraph 13.13(vii)

(ix) In cases where real corruption or corrupt practices are involved, the vigilance machinery should function swiftly and punishment should be stringent, particularly in the case of officers. (Paragraph 13.13(viii)

*(229) The size of the Vigilance Organisation on the Railways, as shown in the table in Para 13.09, is definitely top heavy and has no parallel in any other Ministry including the Defence Ministry. (Paragraph 13.14)

* (230) It is considered that there is no necessity to have an officer of the rank of Director General in the Railway Board for vigilance work. The present vigilance organisation should be converted into a directorate. Paragraph 13.14)

(231) There is no need for such a large number of Deputy Directors in the Vigilance Directorate. (Paragraph 13.14)

*(232) It is considered that unless the administration has reasons to think that the continued stay of a particular person at a certain place is undesirable, there should be no need to transfer staff just as a matter of course every three years, because this causes personal hardship and dislocation of

children's education. (Paragraph 13.15)

(233) As regards the set-up on the Railways, we consider that not more than 2 or 3 senior scale officers should be ear-marked specifically for the vigilance work. The Senior Deputy General Manager should continue to be in overall charge of the vigilance work, but he should consult the heads of departments on complaints pertaining to the officers and staff working under them. (Paragraph 13.16)

*(234) The C.B.I. or the S.P.E. should also consult the General Manager or the Railway Board as the case may be before starting an investigation on their own. If there is difference of opinion between them whether an enquiry should proceed or not, the case may be referred to the Central Vigilance Commission whose decision would be final. (Paragraph 13.17)

CHAPTER XIV - FINANCE AND ACCOUNTS DEPARTMENT.

*(235) It has been represented by certain railway administrations that the general principle of the Accounts Officer being a friendly critic is more or less set at naught at the lower levels because of lack of appreciation by the latter of their proper role. The correct attitude to be adopted by the Finance and the executive officers in dealing with the financial problems needs to be re-emphasised. The attitude of the financial officers should be to help the executive and to avoid being meticulous. Similarly, the executive officers on their part should give due consideration to the financial advice and if a difference of opinion still persists, the matter should be referred to the higher level

for a decision. (Paragraph 14.04)

*(236) There is an urgent need for a major change in the role assigned to the Finance and Accounts Officers of the Railways. These officers have a great part to play in rendering advice to the General Manager and the executive officers on matters concerning economy, operating efficiency and the overall finances of the Railways. The meticulous scrutiny of individual small proposals already approved and sanctioned irrespective of the magnitude of these individual matters should not receive much attention of the Finance and Accounts Officers. Their energy should be concentrated on items like -

(a) Performance budgetting,

(b) Effecting economy and overall efficiency,

(c) Detailed examination of major schemes.

(Paragraph 14.05)

(237) For performance budgetting, adequate costing data should be available and for this purpose it will be necessary to develop norms of dependent cost for operation. Once these norms have been prescribed, the increase in operating expenditure required for any targetted increase in out-put can be correctly arrived at for incorporation in the budget. (Paragraph 14.06)

(238) The top executive should have a clear picture of the increase in expenditure due to the various factors and where the expenditure is disproportionate to the output, steps should be taken to investigate and take remedial measures.(Paragraph 14.07)

......(239)

(239) Performance budgetting can be successfully carried out only if the accounting and costing systems are improved, and the flow of information from the various points of Railways to the Divisions and the headquarters of the Railways is prompt and up-to-date. These points should engage immediate attention of the financial administration on the railways. (Paragraph 14.07)

*(240) We consider that there is an urgent need for the Railway Board to set up a Committee of expert Railway Officers to review the various provisions contained in the Accounts, General and Engineering Codes and to modify them to suit the efficient functioning of the Railways. The size of operations on the Railways has increased enormously and the costs have gone up. Therefore, to have the same scale of checks and counter-checks and booking of expenditure as was required in the thirties is not suitable in the present circumstances. There is therefore need for a new concept and revision of the various code rules.

(Paragraph 14.08)

(241) We recommend that the various procedural orders issued from time to time should also be the subject matter of examination by a Committee along with various codes for evolving a simplified set of rules. (Paragraph 14.09)

......Chapter XV

CHAPTER-XV — MARKET RESEARCH AND DEVELOPMENT, CUSTOMER SATISFACTION AND RAIL ROAD CO-ORDINATION

(243) During the last few years, high **rated** commoditie like cotton.goods, manufactured articles, sugar etc. have gone to the road in increasing quantities, leaving the railways to handle bulk traffic like coal, iron ore etc.

(Paragraph 15.01

(244) For improving the finance of the Railways, it is necessary that more and more high-rated traffic is won bac to the Railways. (Paragraph 15.02

(245) Railways are also facing road competition on lon distance routes particularly where break-of-gauge transhipment poses a problem. (Paragraph 15.02

*(246) When comparing investments for augmenting capaci either in Railways or Road Services, it should be borne in mind that the Railways, as a common carrier cannot refuse any particular commodity, whereas individual truck owners can pick and choose, which places the Railways in a disadvantageous position. If, therefore, traffic increases and rail facilities remain inadequate, the high-rated commodities, which are more susceptible to diversion, will go to the roads and this will weaken the financial positio of the railways. (Paragraph 15.02

(247) Some of the reasons which militate against the traffic being won over by the railways are mentioned in para 15.03. (Paragraph 15.03

*(248) The prime consideration of the Commercial Department of the Railways should be to give customer satisfacti

Claims should be settled promptly and in a business like manner so that occasions for re-opening the claims may be rare. Two of the chief reasons for claims are mis-dispatch of wagons and wagons getting unconnected particularly at transhipment points. With an improved telecommunication system and computerisation on railways, it should be possible to minimise inconveniences to the customers. (Paragraph 15.04)

(249) In the matter of free time allowed for loading, unloading, demurrage and wharfage, etc. the Railways should not be too rigid and, in special cases, should allow such relaxation as the circumstances warrant. (Paragraph 15.05)

*(250) The container service, being a recent introduction on the Indian Railways, it is essential that studies should continue for improving their design and handling facilities. This container service should be gradually extended bearing in mind the gains achieved. (Paragraph 15.06)

*(251) Market research has assumed utmost importance and the Railways should take steps to estimate the possible future developments in industries, the direction-wise movement of goods and the type of specialised stock or service that may be required. (Paragraph 15.07)

(252) The object should be to offer personalised service to the users. For this purpose, the customers and industries should be classified on the basis of commodity-wise studies. (Paragraph 15.08)

(253)

(253) Unless the Public Relations Department of the Railways is alert and prompt in projecting the image of the Railways in respect of improved facilities that Railways are offering to customers, the railways will continue to be at a disadvantage in competing with other modes of transport. (Paragraph 15.09)

*(254) We recommend that the Public Relations Organization in the Railway Board should be under a railway officer having a flair and special training for public relations work. The railways too should take special care to select officers for the posts of Chief Public Relations Officers and they should get special training and once they are in position they should hold the post for a minimum period of 4 to 5 years. (Paragraph 15.09)

CHAPTER-XVI – UNREMUNERATIVE LINES AND SPECIAL BURDENS ON RAILWAYS.

*(255) Expenditure on unremunerative items should be avoided unless the State Government or the organisation, which sponsors such works, is prepared to meet the deficit. (Paragraph 16.01)

*(256) The problem of new lines or the removal of unremunerative existing lines should be viewed from the angle of overall economic cost to the country in rendering the required service. (Paragraph 16.02)

(257)....

(257) Considering the large number of over/under bridges, which the State Governments and the Local Bodies want to have in a year, they should take steps to find funds required for their portion of the work. (Paragraph 16.03)

(258) Unremunerative branch lines on the Indian Railways are causing an annual loss of about Rs.6.6 crores to the Railways. (Paragraph 16.04)

*(259) We recommend that wherever an alternative mode of transport is available or is capable of further improvement, for handling the traffic now carried by the Railways, losing branch lines should be closed down. (Paragraph 16.04)

(260) It will be worthwhile for the R ilways to consider handing over the formation of track after removal of rails and sleepers and existing railway assets like buildings free of cost to the State Government so that the continuance of unremunerative branch lines may be avoided. (Paragraph 16.04)

(261) On a conservative reckoning, Railways are sustaining a loss of about Rs.4 crores per annum on suburban traffic at present, but with the increase in traffic this loss will go up further. Paragraph 16.05)

*(262) Steps will have to be taken in the metropolitan areas to develop underground railways or elevated railways to avoid further pressure on the existing facilities. We are of the opinion that the Indian Railways are the best-suited to operate

these schemes for serving the metropolitan cities. Suitable financial arrangements will have to be made between the Union Government, State Governments and the Railways for operating such schemes so that the Railways may not have to bear the burden of any losses on account of operating such services.
(Paragraph 16.06)

*(263) We understand that Railways have been spending considerable sums of money for the last few years on security patrolling. The maintenance of law and order is the responsibility of the State Governments. We consider that the Government of India should arrange with the State Governments to relieve the Railways of the financial burden for security patrolling. (Paragraph 16.07)

CHAPTER-XVII - ANALYSIS OF WORKING EXPENSES AND SUGGESTIONS FOR ECONOMY.

*(264) There has been a continuing trend of losses on the Northeastern, Northeast Frontier and Southern Railways. On the Northern Railway, there has been a sudden reversal of the financial results during 1964-65. We, therefore, strongly urge that the Railway Board should have a periodical analysis made of the financial results of Railways.(Paragraph 17.02)

(265) While the rise in working expenses under various demands has been, to a large extent, due to the increase in wages and price of materials from time to time, our analysis shows that there is scope for effecting economy under certain heads of expenditure.
(Paragraph 17.02)

(266) There has been a disproportionate increase in the staff in certain departments on certain Railways as indicated in Para 17.03. (Paragraph 17.03)

*(267) While retrenchment may not be possible, the Railways should take steps to analyse the staff strength in detail in the various departments and declare surplus accordingly. Effective measures should be taken to absorb them in future vacancies. (Paragraph 17.04)

(268) Norms should be worked out for staff strength in various departments in various jobs. This is an important means which the Railways should adopt to improve their operating efficiency and financial position. (Paragraph 17.04)

*(269) Short distance passenger traffic leads to disproportionately high level of expenditure in relation to earnings. The Railways should, therefore, review their passenger train services and keep down short distance passenger services, wherever road services can suitably cater to their needs. (Paragraph 17.05)

(270) On double line sections if the need for diesels is no longer there on line capacity consideration, Railways should consider diverting these diesels to other single line sections, particularly to areas that are remote from the coalfields. (Paragraph 17.06)

(271) Railways should take up detailed work studies and job analysis in areas like marshalling yards, major terminals, booking offices and goods

sheds....

sheds to improve the methods of working and thereby effect economy in staff. It should also be possible to close down some of the crossing stations which have no commercial importance on double line sections. (Paragraph 17.07)

*(272) We recommend that the subject of overtime rules for running staff should be looked into by a Committee of officers and suitable modifications effected so that there may be an element of incentive in it and the payment is not based principally on the hours spent enroute.
(Paragraph 17.08)

(273) By a rational analysis, it should be possible to avoid proliferation of staff categories. (Paragraph 17.09)

(274) One of the reasons for the increase in coal consumption on certain railways is the increase in coal consumption on shunting engines. (Paragraph 17.11)

(275) The coal consumption on (B.G.) shunting engines has increased disproportionately in relation to shunting engine hours. (Paragraph 17.15(a)

*(276) An analysis of coal consumption on the movement of goods traffic indicates an average increase of 26% on the Indian Railways. **Even** allowing for all factors including a lower calorific value, the increase in consumption should not have been more than 15%. We are, therefore, driven to the conclusion that there is considerable loss on account of theft. If even 5% of this is saved, there will be a saving of Rs.4.4 crores a year approximately. The Railway Protection Force which exists for controlling these thefts has apparently failed in this respect. (Paragraph 17.15(b)

We recommend.....

(277) We recommend that a review of coal consumption on the basis of what has been done previously by the Expert Committee should be periodically done.
(Paragraph 17.15)(b)

(278) In the case of diesel oil consumption, there is a distinct increase in the case of Central, Northeast Frontier and Southeastern Railways. It is necessary to devise effective measures to ensure that any tendency towards leakage of diesel oil is firmly controlled.
(Paragraph 17.17)

(279) Lubricating oil consumption also needs looking into and a continuous watch should be maintained to keep down the consumption. (Paragraph 17.18)

* (280) Railways should continue, as a long term plan, to expand electrification on more and more of their trunk routes, particularly in areas remote from the coalfields. (Paragraph 17.19)

*(281) We recommend that the Railway Board should make periodical reviews of the financial results of the working of the Railways and take appropriate action to arrest any downward trend in net earnings.(Paragraph 17.20)

CHAPTER-XVIII — FINANCIAL POSITION OF THE RAILWAYS.

(282) The Railways have had handsome surpluses during the First, Second and Third Plan Periods. The picture however was reversed in 1966-67 and 1967-68.
(Paragraph 18.01)

(283) The two main reasons which have led to this position are:-

i) the rapid increase in the capital-at-charge with consequent liability for a much larger dividend payment; and

ii) inadequate development of freight traffic.

(Paragraph 18.02)

*(284) The Railway Ministry should regulate their annual investment in future on the basis of a continuous review of the forecast of traffic. (Paragraph 18.03)

(285) The trend of major developments should be watched by railways. The development of rail facilities takes time, but the time lag is usually less than that required for the development of a particular project and if the industrial growth falls short of expectations, the provision of rail facilities should be correspondingly deferred to the extent practical. (Paragraph 18.03)

(286) Based on certain assumptions of traffic, the Railway Board had at the beginning of the year worked out an assessment of the working expenses, operating ratio, and net surpluses for the years 1969-70, 1970-71 and 1971-72. The assumptions, are given in para 18.07. Based on these assumptions the assessment showed that the Railways would be left with a net deficit of Rs.25.4 crores over this period. (Paragraph 18.07)

*(287) The lack of adequate surpluses during the 3 years — 1969-70, 1970-71 and 1971-72 — and also the recent trends in traffic, the growth of which has been lower than that assumed for the assessment, makes it clear that a more cautious approach is necessary in the matter of capital investment,

contribution.....

contribution to depreciation reserve fund and expenditure out of the development fund. (Paragraph 18.09)

*(288) We suggest that the pace of the proposed replacement of assets between 1966 and 1975 should be staggered, and it should be so arranged that a contribution of the order of Rs. 100 crores a year to the depreciation reserve fund in the next few years should suffice. (Paragraph 18.11)

(289) The rate of dividend has been going up from one quinquennium to another as indicated in para 18.12.

(Paragraph 18.12)

*(290) Considering the progressive increase in the amount that is payable as dividend, it is essential to keep down the capital investment in future. Traffic has not built up to the expected levels and further requirements of extra capacity should be met by better utilisation of the existing resources, with capital investment in specific areas where quick returns are possible. (Paragraph 18.12)

*(291) We suggest that expenditure out of development fund should be reduced to about Rs.18 crores a year. The level of expenditure on passenger amenity works should be curtailed to a crore of rupees per year. Items like platform shelters, extension of waiting halls, etc., mean recurring expenditure on their maintenance and this is one of the reasons why the maintenance expenditure on the Railways has been increasing from year to year. (Paragraph 18.14)

* *(292) A scheme of expenditure for the 5-year period from 1971 onwards is contained in Para 18.15.

(Paragraph 18.15)

*(293) The recent budgetary deficits have so attentuated the balance in the revenue reserve fund that the interest

available thereon which can be utilised in future for amortization, is nominal. This stresses the need for the Railways to build up their revenue reserve fund to comfortable levels in the coming years. To help the Railways in this regard, the dividend liability on line capacity works, doublings, conversion of gauges, major remodellings, etc. which cost more tha Rs.1 crore individually should be limited and these works should be treated on par with new lines and there should be **a moratorium** on payment of dividend for such works for a period of 5 years.A **somewhat** similar procedure should be adopted for production units

(Paragraph 18.16)

(294) The actual growth in traffic during the last six months,particularly passenger traffic, has been below expectations and, as such, Railways have to exercise great caution and do all that is possible in the matter of effecting economy.

(Paragraph 18.17)

(295) The first priority has to be given to economy in expenditure. One of the reasons for the present level of expenditure is the level of staff input obtaining at present on the Railways. It should be possible to reduce the staff input per unit by effecting suitable improvements in operational techniques and by the use of improved technology. In view of the declared policy of the Government that no serving staff should be retrenched, this may not achieve any substantial economy in the short run. The objective should be to obtain this reduction over a period of time by working off the surpluses against the normal attrition of staff by retirement etc.(Paragraph 18.18)

*(296) When there is a recession in the economy, it is not

desirable to attempt neutralisation of the effects of recession through increases in fares and freights. It might, however, be possible to get some additional earnings by making selective increases in certain fields. There are commodities, the freight on which does not cover even the cost of transportation. We suggest that the question of freight structure should be remitted to a Committee after the preliminary investigations which are under way by an Officer on Special Duty are over. (Paragraph 18.19)

(297) The Railway Board must make urgent studies of the fare structure, particularly for all short distance passenger traffic and bring it more in line with costs.

(Paragraph 18.20)

*(298) In the overall assessment, passenger traffic does not pay and the loss is fairly substantial. Uneconomic services should not be perpetuated. If the existing level of fares cannot be enhanced to make up the loss, then a measure of austerity and overcrowding will have to be tolerated to avoid any further increase in the loss.

(Paragraph 18.21)

CHAPTER XIX - FUTURE POLICY FOR DEVELOPMENT

*(299) On the basis of existing traffic trends, the rate of investment on the Railways should not exceed Rs.125 crores annually excluding the throw forward costs of new lines. If the rate of increase of traffic

...... exceeds

exceeds 3% per annum, for every extra one million tons an additional investment of about Rs.7.5 crores should be adequate. (Paragraph 19.01)

*(300) We suggest that before starting the implementation of any of the major schemes, the Board should keep itself informed of the corresponding developments envisaged in the industrial plan and postpone investment in them if any scheme is lagging behind.

(Paragraph 19.02)

(301) Further increase in the loads of some of the important mail and express trains may be considered.

(Paragraph 19.03(i)(a)

(302) For further development of capacity, before doubling or trebling of the track is contemplated, other possibilities should be fully explored.

(Paragraph 19.03(ii)(b)

*(303) For securing optimum economic results, the best course is to electrify or dieselise long stretches of sections where large scale through movement is involved so that the locomotives hauling the traffic may move long distance without a change. Judged in this light, the Vijaywada-Madras section does not seem an ideal one for electrification.

(Paragraph 19.03(ii)(b)

*(304) We suggest that for future electrification, the following sections may be considered -

...a)

(a) Tundla-New Delhi,
(b) New Delhi-Agra Cant,
(c) Mathura-Baroda,
(d) Bhusaval-Durg; and
(e) Madras-Cochin. (Paragraph 19.03 - (ii)(c)

*(305) Metre gauge conversion to broad gauge is extremely important for the development of capacity and ensuring economy. (Paragraph 19.05)

(306) Running longer goods trains is another device for eliminating line capacity works. (Paragraph 19.06)

(307) The replacement cost of vacuum brakes with air brakes for all the wagons on the Indian Railways may be of the order of Rs. 84 crores. (Paragraph 19.07 and 19.13)

(308) The Research, Designs and Standards Organization has reached the conclusion that the maximum load which can be hauled with the modified vacuum brakes is about 4050 tons. (Paragraph 19.08)

*(309) As the traffic on the trunk routes is bound to increase particularly for movement of coal, it may be necessary to run longer trains to avoid quadrupling of such trunk routes. For running longer goods trains, air brakes will become a necessity. The longer it is put off, the greater will be the cost. Replacement of vacuum brakes by air brakes may be confined to about 2 lakhs wagons and the cost will work out to about Rs.60 crores. (Paragraph 19.08 to 19.13)

(310) Railways should aim at a higher target of output for the rolling stock and this will be possible only if there is not too large a cushion of surplus rolling stock. (Paragraph 19.15)

20.08 ACKNOWLEDGEMENTS. - We must in conclusion acknowledge the valuable help we have received from our Member-Secretary. He had to shoulder a very heavy burden because he had to discharge his duties as Member-Secretary in addition to carrying on his normal work as an Additional Member of the Railway Board. In spite of this serious handicap he was able to fulfil his responsibilities towards the Study Team on Railways which must have taxed his energies to the full with conspicuous ability and efficiency and without showing that his onerous duties had imposed any strain on him.

We must also acknowledge our indebtedness to the Special Assistant, Shri M.R. Anand, and his very small and inadequate staff. Our wide terms of reference required collection and analysis of voluminous data but our small staff which had to work for a long time under heavy pressure carried out the task allotted to it cheerfully and efficiently. The brunt of the work had to be borne by the Special Assistant. His outstanding ability, resourcefulness, tact and devotion to duty were a real asset to the Team.

(H.N. Kunzru)
Chairman

(P.C. Bhattacharya)
Member

(G. Pande)
Member

(K.B. Mathur)
Member

(P.L. Tandon)
Member

(G.P. Warrier)
Member-Secretary

NEW DELHI,

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ANNEXURE I/1
(Vide Para 1.03)

Itinerary of the Study Team on Railways of the Administrative Reforms Commission indicating the names of places visited and the authorities with whom discussions were held.

Dates	Names of persons/authorities with whom discussions held and places visited.
	Visits to-
3.10.67) 4.10.67) 5.10.67)	i) The Research, Design and Standards Organization, Lucknow. ii) Loco and Carriage and Wagon Workshops, Northern Railway, Lucknow.
16.10.67	Shri H.C. Mathur, Member, Administrative Reforms Commission met the Study Team on Railways at its preliminary meeting.
21.10.67) 22.10.67) 23.10.67)	i) Discussions with the General Manager, South-Central Railway, Secunderabad. ii) Visit to the Indian Railways School of Signal Engineering and Telecommunication, Secunderabad.
24.10.67	Visit to the Integral Coach Factory, Madras.
27.10.67	Meeting with the Technical Directors of the Railway Board.
5.11.67) 6.11.67) 7.11.67)	i) Discussions with the General Manager, Southern Railway and his officers. ii) Meeting with the Divisional Supdt., Madras and his officers.
8.11.67	i) Discussions with the General Manager, Western Railway and his officers. ii) Discussions with the Divisional Supdt Bombay, Western Railway.
9.11.67	i) Discussions with the General Manager, Central Railway, and his officers. ii) Discussions with the Divisional Supdt., Bombay, Central Railway.

Contd...2.

10.11.67	Meeting with the Western Railway Officers' Association, Bombay.
10.11.67	Inspection of railway installations, goods yards, computers, containers etc. at Bombay.
12.11.67	Visit to Katni Diesel Shed of the Central Railway.
13.11.67	Visit to the Heavy Electricals Ltd., Bhopal.
14.11.67	Meeting with the Divisional Supdt., Jhansi.
15.11.67	Meeting with the General Manager, South-Central Railway, Secunderabad.
24.11.67	i) Discussions with the Divisional Superintendent, Dhanbad. ii) Visit to Patherdih Collieries.
25.11.67	i) Discussions with the Divisional Superintendent, Asansol. ii) Inspection of Andal Yard.
29.11.67	Discussions with the Directors of the Railway Board.
7.12.67	Discussions with the Chairman, Calcutta Port Commissioners and his officers.
8.12.67	i) Discussions with the General Manager, Eastern Railway and his officers. ii) Discussions with the General Manager, South-Eastern Railway and his officers.
9.12.67	Discussions with - i) M/s Saxby & Farmers Ltd., Calcutta. and ii) The Divisional Superintendents, Howrah & Sealdah.
20.12.67	i) Discussions with the Chairman, Bombay Port Trust. ii) Visit to Siemens' Factory at Andheri.
21.12.67	i) Visit to the Hindustan Aeronautics Ltd., Bangalore. ii) Discussions with the Indian Telephone Industries, Bangalore.

Contd.....3.

22.12.67	i) Inspection of Tondiarpet Marshalling Yard, Southern Railway. ii) Discussions with the Chairman, Madras Port Trust and his officers. iii) Visit to the Integral Coach Factory.
23.12.67	Discussions with the Kerala State Government at Trivandrum.
24.12.67	Discussions with the Chairman, Cochin Port Trust, Cochin.
2.1.68	Visit to the Railway Staff College, Baroda.
21.1.68	Inspection of the Mughalsarai Yard.
22.1.68	Visit to the Diesel Locomotive Works, Varanasi.
23.1.68) 24.1.68)	Meeting with the Additional Member, Finance Director Accounts, Director Statistics and Economic Advisor.
6.2.68)	Discussions with the General Manager, Northeast Frontier Railway, and his officers.
7.2.68	Discussions with the Assam State Government.
9.2.68	Discussions with the General Manager, Northeast Frontier Railway and his officers.
13.2.68	Meeting with Mr. T.J. Alderdge, Deputy Managing Director, Westing House Brake & Signal Co. Ltd., London.
15.2.68) 16.2.68)	Meeting with the Additional Member(Finance), Director(Accounts); and Director (Statistics).
22.2.68) 23.2.68)	i) Visit to the Research, Design and Standard Organisation, Lucknow. ii) Discussions with the Divisional Supdt., Northern Railway, Lucknow and his officers.

Contd.....4.

24.2.68) 25.2.68)	Discussions with the General Manager, North-Eastern Railway, Gorakhpur and his officers.
10.3.68	Meeting with the Director General, Vigilance, Railway Board.
11.3.68 (F.N.)	Meeting with the All India Railwaymen's Federation.
11.3.68 (A.N.)	Meeting with the National Federation of Indian Railwaymen.
13.3.68 (F.N.)	Meeting with the General Manager, Northern Railway, Delhi.
13.3.68 (A.N.)	Meeting with the Railway Board.
27.3.68	Visits to - i) Durgapur Steel Plant, Durgapur. ii) Alloy Steel Plant, Durgapur. iii) Andal Yard, Eastern Railway.
28.3.68	Visit to the Chitteranjan Locomotive Works, Chittaranjan.
29.3.68	i) Visit to Saxby & Farmers' Factory, Calcutta ii) Discussions with the General Managers, Eastern and South-Eastern Railways.
14.4.68) 15.4.68)	Meeting with the Additional Member Finance, Director Accounts and Director Statistics.
26.4.68	Meeting with the Railway Board.
10.5.68) 11.5.68)	Discussions with the Railway Board.
20.5.68	Meeting with Shri C.M. Poonacha, Minister for Railways.
27.5.68	Meetin with the Federation of Railway officers.
30.7.68	Meeting with the Director General, Supplies & Disposal, Ministry of Works, Housing and Supply, New Delhi.

Contd....5.

14.8.68	i) Meeting with the Additional Deputy Comptroller & Auditor General(Railways).
	ii) Meeting with the Director(Stores) Railway Board and Controller of Stores, Western Railway, Bombay.

The above itinerary does not include individual discussions of the Chairman and Members of the Study Team with the Chairman, Members, Directors or other officers of the Railway Board.

ANNEXURE - II/2
(Vide para 2.34)

1. The Directorates in the Railway Board have proliferated with the passage of time and their strength has also shown a marked upward trend, as well be clear from the statement marked Annexure II/3. In 1956-57, which has been taken as the base year, when the railway working was attuned to the new conditions, created by the large scale development envisaged in the Second Plan, the gazetted strength of the Directorates, as would be seen from the details given below. was 200 as against 299 in 1967-68:-

	1956-57	1967-68
Directors	12	19
Jt. Directors	22	42
Dy. Directors	31	66
Asstt. Directors	14	23
Section Officers	103	110
Misc. Officers	18	39
Total:	200	299

2. Like the strength of the gazetted staff, the strength of the non-gazetted staff has also gone up considerably as shown in juxta-position below:-

Class III	1956-57	1967-68
Assistants	325	456
U.D.Cs.	66	131
L.D.Cs.	278	308
Steno-typists	58	97
Stenographers	153	178
Misc.Categories	109	290
Total	989	1460

.... Class

Class IV		
Jamadars, Record Sorters, Daftries, Peons/Messengers, Frashes, etc.	389	485

3. An examination of the working of the Directorates has revealed that whereas the work in a few Directorates has remained steady or even increased, there is a strong case for abolishing some of the Directorates and transferring the work left over to other Directorates and scope for reducing the strength of the staff in many of the remaining ones.

4. STORES DIRECTORATE — The number of officers dealing with stores work in the Railway Board has varied from time to time as follows:-

	51-52	56-57	61-62	Dec.'67
Director	-	1	1	1
Jt. Directors	-	-	3	3
Dy. Directors	-	3	6	3
Assistant Directors	-	-	-	-
O.S.Ds.	2	-	1	-
A.D.Os.	-	-	1	2

This Directorate did not exist prior to 1956-57. In 1956-57, the Second Five Year Plan involved a considerable import of a large variety of materials and, to cope with this expanded demand, a stores organization was set up. The main functions of the Stores Directorate are:-

a) Importing steel by issuing global tenders;

(b).....

b) importing wheels and axles required in excess of indigenous capacity;

c) importing diesel locomotives;

d) importing signalling equipment;

e) issuing orders for wagon manufacture; and

f) issuing sale orders for scrap on the Railways.

5. The requirement of rolling stock is worked out jointly by the Transportation and Mechanical Directorates and tendering and contracting work, even though a large number of producers are involved, is not more difficult than it was prior to 1956-57. Wagon orders were previously placed by the Mechanical Directorate and once the orders had been finalised, the payment of bills was arranged by the Eastern Railway. Wagon producers procured their own steel and other materials and assistance, if needed, was given by the Railway Board. Steel imports were also required then, because indigenous manufacture was very inadequate. The position of indigenous supply of steel now is very much better and should improve further. It has been shown later in para 28 the large organization for procurement of steel etc., which has been set up in the Wagon Production Directorate and it is considered that so much staff, in addition, is not needed by the Stores Directorate. Diesel locomotive import will also cease in a a few years. Limited contracting work may be undertaken by the Mechanical Engineering Directorate, as was being done before, and it may be assisted by a Joint Director. In any

case, all these demands have to be co-ordinated by the Mechanical Directorate and it might as well finalise the purchase arrangements.

6. In respect of signalling material, as the requirement will now be standardized and since there are only a limited number of suppliers of sophisticated equipment, the Signalling Directorate can progress these contracts. In any case, they have to work out all the details and the additional responsibility of contracting is not difficult. Further, procedures are also well established now.

7. The Director, Stores also mentioned that he was initiating various measures for inventory control on the Railways including A, B and C analysis. It is considered that detailed instructions may be issued on this subject and the General Managers should be held responsible for implementing them. Their Financial Advisers should maintain a super-check in respect of inventories, which they are in the best position to do. In the Railway Board, the Director Finance (Budget) should likewise exercise control, through budgetary control techniques. The sale of scrap etc. should be regulated by the Railways in accordance with the policy of the Board and the controls exercised by the Government.

8. Stores work should, therefore, be decentralised to the maximum extent possible so that the General Managers are fully empowered to execute the tasks for which they are held responsible.

9. A Joint Director (Development) who is now posted in the Stores Directorate to maintain liaison with the Director General, Technical Development for indigenous development, should, more appropriately, function under the Director, Mechanical Engineering. He is in fact an officer of that Department.

10. The Liaison Officer, Stores, in the Joint Director's grade, who liaises with the Director General Supplies and Disposals, and assists the Railways should continue and be transferred to Mechanical Engineering Directorate.

11. **THE DIRECTORATE OF HEALTH** — This Directorate came into being in 1958. Prior to this, the work was being managed by a Joint Director in the Establishment Directorate. Its composition from time to time is given below:-

	51-52	56-57	61-62	Dec.1967
Director	-	-	1	1
Jt.Director	-	1	-	-
Dy.Director	-	-	-	1
Asstt.Director	-	-	-	-

12. Considerable development of hospital facilities has already been made and further development should now be left to the Railways to sponsor, where a Chief Medical Officer of the same status as that of a Director already exists. Broadly speaking the Railways are self sufficient in respect of their medical services and may be trusted to look after themselves in this sphere. There is no point in wasting the services of a capable senior doctor on desk work in the

Railway Board and thereby simply adding to the administrative work of the Chief Medical Officers. This Directorate should be abolished and the work transferred to the Establishment Directorate, as was being done before 1958.

13. The Deputy Director, Family Planning, it is understood, is paid for by the Ministry of Health and if his role in the Railway Board is otherwise irreplaceable, he may be attached to the Establishment Directorate. The instructions of the Ministry of Health in his field could easily be conveyed to the General Managers by the Establishment Directorate and the returns, now received from the General Managers, could be passed on to the Ministry of Health.

14. THE FINANCE AND ACCOUNTS DIRECTORATE – The strength of this Directorate has varied from time to time as follows:-

	51-52	56-57	61-62	Dec.,1967
Directors	2	2	1	2
Jt.Directors	2	6	5	5
Dy.Directors	3	3	5	6
Assistant Directors	2	1	2	2
O.S.Ds.	-	2	3	-
A.A.Os.	-	1	3	3

A Director was replaced in this Branch by an Additional Member Finance in 1957 but this post was revived in 196[illegible]. In July,66 an Economic Cell has also been created, which consists of six officers including one Director and one Joint Director. This Cell is in addition to the above mentioned strength. It has been mentioned in the discussions with the Railway Board that this Cell will bring into use all the modern techniques of economic analysis in assessing the economic viability of the works involving a substantial investment, as also determining the cost benefit to the economy as a whole. It is not possible to assess the value of the work of this Cell to the railways as its preparatory stage will take time. The Railway Board will presumably review its strength after some time.

15. We have suggested elsewhere some simplifications in procedures, particularly in Paras 227 and 228. We visualise considerable decentralisation to the railways. The financial soundness of ordinary development work should be checked by the Financial Advisers on the railways and their expertise for this purpose should be improved. Large projects and major developmental works, e.g. electrification, automatic signalling programme etc. should be only scrutinised in the Railway Board. If the suggestions made are implemented, it is considered that the functions of the Deputy Director, Finance (BC) and that of Deputy Director (Finance) Accounts could be combined into one. Only a few cases of sanctions required for officers posts will remain, and the Director Finance should be able to handle this work with the help of two Assistant Directors. The post of Deputy Director Finance(E) may be abolished. The Joint Director Finance Stores should be retained but the post of Deputy Director, Finance (Stores) may be abolished which should be feasible on account of the suggested modification in procedures and the reduction of stores work in Railway Board. It is appreciated that the changes contemplated can

only.....

only be implemented gradually and the staff adjustments may be suitably staggered. This Directorate should set an example regarding avoidance of duplication and unnecessary work and in turn be a guide to others.

16. A Costing Cell manned by two experts should be constituted to introduce a proper system of costing in the repair workshops, maintenance sheds and sick lines of the railways. Two Cost Accounts Officers have been posted under the Statistical Directorate. They should, however, be top class Cost Accountants who can initiate modern cost accounting in conjunction with the modification of statistical data. The system at present in vogue is completely out-dated and a realistic picture of cost is not available. Since performance budgeting has been proposed, it is extremely important to introduce a system of costing for the maintenance of rolling stock and to ensure comparable cost figures in different centres with a view to exercising an effective cost control. These experts after carefully studying the problem, should issue clear directives to the railways and train the staff for introducing the changes.

17. A substantial reduction of work is possible in the Finance and Accounts Directorates and it is suggested that in the beginning an endeavour may be made to work with following strength:-

Directors	..2
Jt. Directors	..5
Dy. Directors	..3
Asstt. Directors	..2

In course of time it may be possibl to bring down the strength of the Joint Directors as well.

18....

18. SIGNALLING & TELECOMMUNICATION DIRECTORATE — This Directorate was established in the year 1957. Its strength, as it existed from time to time, is reproduced below:-

	51-52	56-57	61-62	Dec.,1967
Directors	-	-	1	1
Jt. Directors	-	-	1	2
Dy. Directors	1	3	4	4
Asstt. Directors	-	-	4	3
Adviser (S&T)	-	1	-	-

A regular programme for modernization and development of signalling has been suggested and this has been accepted by the Railway Board. The work in this Directorate will now mainly be confined to preparing an integrated plan for development on different Railways in accordance with the accepted programme and the planning of equipment and materials from year to year will also be correlated to such a standard development. Its task, therefore, has been made very much simpler. The Research Designs and Standards Organization is now developing the technique of preparing design drawings for route relay inter-locking and mechanization of marshalling yards. Two well-known indigenous manufacturers of sophisticated signalling equipment have agreed to supply all the equipment indigenously, subject to the Railway Board entering into a long term contract and allocating the necessary foreign exchange for the purchase of raw materials, which are not available in the country.

19....

19. The present strength of this Directorate includes one Deputy Director and 3 Assistant Directors for inspection work, who are posed in Calcutta, Bombay and Madras. An effective supervision cannot be exercised from Delhi on their work. This inspection work should, therefore, be decentralised under the Chief Signalling and Tele-communication Engineers of the Eastern, Central and Southern Railways. They will be able to conduct high level inspections from time to time with a sense of responsibility and accountability. These Railways have a number of senior scale officers also posted at the Head-Quarters and the could be utilised for inspection work. Further if such equipment is ordered from abroad, continuous inspection is not done and it is for consideration whether this is necessary in the case of equipment manufactured indigenously by a firm of the status of Saxby and Farmers or Seimens. Equipments purchased from smaller manufacturers should be inspected by the railways concerned or by making suitable arrangement with the railways operating in the area. This Directorate is to be retained considering the importance of the work but it is considered, it can be managed efficiently by one Director and one Jt.Director.

20. ELECTRICAL ENGINEERING DIRECTORATE — A separate Electrical Engineering Directorate came into being in 1956. The number of officers has varied as below:-

	51-52	56-57	61-62	Dec.1967
Director	-	-	1	1
Jt.Director:	-	-	-	1
Dy.Director	-	1	1	1
Asstt. Director.	-	-	-	-
Elec. Adviser	-	1	-	-

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In the recent past this Directorate was doing work in the Board which was connected with electric traction. There is now another high level organization in the Board under an Additional Member (Railway Electrification) for the execution of schemes for electric traction. Since the Additional Member is in the Railway Board, co-ordination with the Executive machinery has become simpler. The foreign exchange needs of this organization should naturally be worked out by him and this Directorate will have little to do with it. Technical developments and laying down standards is the function of the Research Designs& Standards Organization. techniques are well established. This Directorate, therefore, essentially has to undertake planning and programming of the works of power generation and electrification of stations, yards, collieries etc. for which the Director himself should be adequate and, therefore, there is no necessity for a Joint Director in this Directorate.

21. THE PLANNING DIRECTORATE — This Directorate was established in 1956-57 and its strength has varied from time to time as follows:-

	51-52	56-57	61-62	Dec.1967
Director	-	1	1	1
Jt. Director	-	1	1	1
Dy. Directors	-	1	1	2
Asstt. Director	-	-	-	-
O.S.D.	-	-	-	1

Planning and development work has now been greatly stablised.

The function of the Planning Directorate is to maintain co-ordination with the Planning Commission and other Ministries of the Government and to keep the various Directorates in the Board's office posted with what is needed to be done by them. The Directorates concerned then plan the developments required and the co-ordination of such work is the core of this Directorate's functions. The Planning Directorate also works out rolling stock requirements and line capacity works, which is not really a part of its function and which in a way duplicates the work. Considerable simplification can be brought about in its work. The additional posts of a Deputy Director and the Officer on Special Duty may be surrendered and thereby revert to 1956-57 strength.

22. THE EFFICIENCY BUREAU —This Bureau was started in 1957. Its composition has varied as follows:-

	51-52	56-57	61-62	Dec.1967
Director	-	-	-	-
Jt. Director	-	1	-	1
Dy. Director	-	2	3	3
Asstt. Director	-	-	-	-
O.S.D.	1	1	-	-

It is only temporarily that a Joint Director has been placed in-charge of this bureau. This is an organization meant for an expert examination of problems with a view to ensure encourage economy and efficiency. The permanent organization should, therefore, be an expert body in work and methods study and analytical examination of statistical data also. It should be headed by a

Director, who has a considerable all-round experience of the Railways. He should be a top class executive, who is likely to stay in position for four or five years. Under him one or two experts should be posted, who should be permanent officers of the Efficiency Bureau. The Bureau will have the assistance of all the expertise on technical matters available in the Railway Board and in the Railways on which the assigned task is to be tackled. Normally they should not need any further assistance, but if, for the examination of any specific problem, an experienced railway officer is needed, he may be temporarily posted to the Bureau. The organization should not function in a routine manner and act as a compendium of information for the Railway Board. It has a specialist task. It is, therefore, suggested that Deputy Directors may be withdrawan and replaced by experts. A similar unit, with somewhat similar functions, should also be established on each Zonal Railway.

23. THE STATISTICAL DIRECTORATE — This Directorate received an independent status in 1948. Its strength has been changing as indicated below:-

	51-52	56-57	61-62	Dec.1967
Director	-	-	1	1
Jt. Director	-	-	1	1
Dy. Directors	1	1	2	2
Asstt. Directors	-	3	3	2
S.A.O. (Stat)	-	-	1	1

The compilation of statistical data and its reorientation to modern systems, warrants a detailed examination. Massive data are being compiled at present, but not much fruitful use is being made of. A team of Directors should look into its working and suggest measures for reorganizing its work. It may even be better if some experts could be secured, in the first instance, to examine its work and to suggest modifications so that adequate statistical data of value for managerial control may be available to the Railway Board and the General Managers soon after the period to which it relates. This Directorate should also put up a periodical review of important statistical data to the Board to enable them to exercise an effective managerial control. The analysis should take into account past trends for a fairly long period and the variation in the best results achieved in the past should be explained in sufficient detail with a view to taking remedial measures for improvement. Since an examination by experts has been suggested, the reorganization should await their suggestions.

24. TRAFFIC (TRANSPORTATION) DIRECTORATE — The strength during the various periods is given below:

	51-52	56-57	61-62	Dec.,1967
Directors	-	2	1	1
Jt. Directors	1	1	2	3
Dy. Directors	1	4	4	3
Asstt. Directors	-	1	1	1
O.S.D.	1	1	-	1

In 1956-57 a Director, Rail Movement and a Deputy Director under him were posted at Calcutta. These posts have since been surrendered. The posts of a Joint Director (Coal) in Calcutta and a Deputy Director Rail Movement, Moghulsarai are however, included in this directorate. Since the coaching work has been transferred under Director (Safety), the work in this Directorate has been somewhat reduced. Further, when a whole time Member assumes charge as Member Traffic, instead of the Chairman as at present, he will be able to pay undivided attention and will afford relief to this Directorate. There is, therefore, scope to reduce one Joint Director and one Deputy Director, leaving one Director, one Joint Director and one Deputy Director in position in the Board. This strength should be adequate for handling the work of goods traffic and planning of developments. The duties of the Director and the Joint Director should be so defined that they function, more or less, independently and put up papers to the Member direct.

25. DIRECTORATE OF TRAFFIC COMMERCIAL — The strength of this Directorate has varied as follows:-

	51-52	56-57	61-62	Dec.1967
Directors	1	1	-	-
Jt. Directors	1	2	2	3
Dy. Directors	-	4	4	4
Asstt. Directors	-	1	2	3
O.S.D.(Commercial)	1	-	-	-

With the sanction of the post of A.M.C. in 1956, the post of the Director was abolished. Out of three Jt. Directors, one is on special duty for containerisation. The work between the remaining two Joint Directors has been divided almost on the same lines as on the Railways. One of them deals with general matters and the other with Rates and Claims. This is a rational distribution and no change is practicable. On the General side, however, considerable work of a routine character is being dealt with, which in our view should be eliminated. This, however, entirely depends upon the reaction of the Government and Parliament to our suggestions. This branch deals with almost every commercial problem of a general character, namely licensed porters, handling contracts, foot-board travelling, reservation of seats, retiring room reservation etc. There is no justification for such work being dealt with in the Railway Board. It can well be imagined that all this leads to a considerable paper work on the Railways also, because ultimately it is they who have to provide the material for answering queries or issuing instructions regarding reservations etc. This work should be done away with, and if so, one Deputy Director (General) can be reduced.

26. CIVIL ENGINEERING DIRECTORATE — This is one of the oldest directorates and prior to 1957 had been dealing with signalling also. Its composition through the years has varied as shown below:-

	51-52	56-57	61-62	Dec., 1967
Director	1	1	1	1
Jt. Director	1	2	3	5
Dy. Director	1	2	3	4
Asstt. Director	-	-	1	1
Timber Adviser	-	1	1	-*
O.S.D.(Sleeper)	-	-	1	-
Land Adviser and Assistant Land Adviser.	-	-	2	-

(*The post is now operated as JD(Timber)

Bearing in mind the necessity for retaining only higher level work in the Directorates, the strength should be brought down to the level that obtained in 1956-57. The revised strength may be one Director, three Joint Directors and one or two Deputy Directors. The need for the Assistant Director may be reviewed by the Railway Board.

27. ESTABLISHMENT DIRECTORATE — This is also an old well established Directorate. Its strength has been as follows:-

	51-52	56-57	61-62	Dec.1967
Director	1	1	1	1
Jt. Director	1	1	3	2
Dy. Director	2	3	3	6
Asstt. Director	2	5	6	6
O.S.D. (Coop.)	1	1	1	-
O.S.D. (Estt. Manual)	-	1	-	-
O.S.D.(Personnel)	-	1	-	-
Adviser (L & W)	-	-	1	-

No immediate change in the strength of officers in this Directorate is suggested.

28. DIRECTORATES IN THE MECHANICAL ENGINEERING BRANCH— Originally there was only one Directorate of Mechanical Engineering dealing with the work of this branch. Due to special reasons then obtaining the work was split into three Directorates in course of time. The strength of these three Directorates from time to time has been as follows:-

(1) Mechanical Engineering

	51-52	56-57	61-62	Dec.1967
Directors	1	2	1	1
Jt. Directors	1	5	2	3
Dy. Director	-	1	1	1
Asstt. Directors	-	1	2	2
OSD (Coal)	-	-	1	-
OSD (Metric)	-	-	1	-
ADO (Mech)	-	-	1	1

(2) Mechanical Production (established in 1958)

	51-52	56-57	61-62	Dec.1967
Director	-	-	1	1
Jt. Directors	-	1	2	1
Dy. Directors	-	-	2	3
Asstt. Director	-	-	-	-

(3) Wagon Production (established in 1962)

	51-52	56-57	61-62	Dec.1967
Director	-	-	-	1
Jt. Directors	-	-	2	3
Dy. Directors	-	-	5	9
Asstt. Directors	-	-	1	2
OSD(PF)	-	-	1	-
OSD(WP)	-	-	-	1
Inspecting Officers	-	-	-	2

In 1956-57 one post of a Director had been reduced when an Additional Member's post was created. As will be seen from the above statements, two new directorates were created in course of time with the required number of posts. In addition the post of one Joint Director was also added to the main directorate later.

29. It was recently decided to transfer the Directorate of Wagon Production under the Research, Designs & Standards Organization. This organization did not exist separately prior to 1961-62 but in that year, when an acute shortage of wagons was experienced, this Directorate was created. Later, in 1965, the Railway Board took over from the D.G. S. & D. the inspection work of wagons manufactured in the private sector and as a result, 24 officers and 38 non-gazetted staff were also taken over, who became part of this directorate in addition to those shown in the statement. From the duty lists, it appears that several officers are engaged only on stores work and there seems to be considerable overlapping of functions. Those engaged on stores work alone are:-

Joint Director Stores (Steel)	..1
Joint Director (I&S) Calcutta	..1
Dy. Director Steel (RS) Calcutta	..1
Dy. Director (I&S), Calcutta	..1
Dy. Director Steel (G)	..1
Dy. Director Stores (Wagon)	..1
Dy. Director Stores (Steel)	..1
Asstt. Director Stores (RS), Calcutta	..1
	..8

...This

30. This seems too big an organization for the stores work involved. There was no opportunity to examine their work and it is, therefore, suggested that the Railway Board should rationalise the arrangement for procurement of steel and adjust the strength of the staff. The Railway Electrification Organization has also its own officer for liaison with the Steel Controller. Further, there is a Deputy Director (Bridges) posted at Lucknow for procurement of steel for bridges. Then again there are a number of officers on the Eastern Railway engaged on a similar work. All this should be co-ordinated and a rational arrangement introduced. There is also no apparent reason why wagon production group should be attached to the Research Designs & Standards Organization. The better course would be either to place it under the General Manager, Eastern Railway or to form a separate composite unit, under a Controller of Stores.

31. Out of the remaining officers, those engaged on inspection and liaison work with the manufacturers are:-

Joint Director (I&L), Calcutta.

Dy. Director (I&L), Calcutta.

Dy. Director (Inspection), Calcutta.

These are obviously necessary and should remain a part of the Research Designs & Standards Organisation. Then there are the following officers in addition to the Director:-

Dy. Director (P.P.)

Dy. Director (W.P.)

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Their work seems to be of a varying character and presumably reaches a peak level when contracts for production are finalised and tapers off later. It may be examined, whether the two posts could be merged into one. The Railway Board should have the whole set up of this organization reviewed in the light of the observations made above and readjust the strength as required. Coming to the Mechanical Engineering and Production Directorates, a reorientation of their work has been suggested. It is a matter of primary importance that the work in the repair workshops is rationalised and repair schedules etc. reviewed, as suggested in Chapter VII. This will need considerable analytical work. Furthermore, the training programmes for staff, with the progressive change over from steam to diesel or electric traction, should be intensified so as to build up the requisite force out of the existing staff engaged on running and maintenance of steam locomotives.

32. From the duty lists furnished, it appears the Production Directorate keeps a close watch on activities of the Production Units and, therefore, it is inferred that there is considerable correspondence between them. The Production Units are headed by a General Manager each, who is assisted by a number of Senior Administrative Officers. It is understandable that the Railway Board approves their annual production programme, which is based on the capacities indicated by the General Manager concerned. Each of these units has a different character of production work and,

therefore, the quantum of co-ordination between them is negligible. Some co-ordination, however, is necessary between these units and the zonal railways for supplying certain components manufactured by them for use in repair work. Once this has been firmly laid down, nothing more is needed to be done. There are sufficiently senior officers in the zonal railways and the production units, who should be able to sort out their joint problems by mutual discussion without the intervention of the Railway Board. In respect of the day to day work on the railways and the Production Units, the need for intervention from the Railway Board should be rare. The 10-day D.O. reports and the published statistical data should normally suffice for keeping the Railway Board posted with their problems and developments. In respect of the foreign exchange allocation for import of components and materials, however, Railway Board's assistance is needed. These are largely to be resolved by the Financial Directorate. To reduce correspondence, the Joint Director (Finance) may visit the Production Units periodically to make an appreciation of their requirements and then progress these with the Finance Ministry. Paper work should be cut down to a minimum and more use of the teleprinter service should be made. No modification of the strength in these sections is suggested. They should concentrate on rationalisation and standardisation of work in the repair units and initiate measures for the training of staff, which, to some extent, is already being done. It has to be systematically arranged and pursued with greater vigour so that results materialise quickly.

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33. Regarding the Joint Director (Fuel), it is disappointing that full awareness of the variation in consumption of fuel, including diesel oil and lubricating oil, is found lacking and the reasons for variation are not available in sufficient detail. His duty list shows that he is a member of a number of Committees. It would be better to relieve him from some of these committees if they hamper him in his basic work. He should concentrate on fuel and oil consumption problems. Consumption statistics should be periodically reviewed in sufficient detail.

34. **SAFETY** DIRECTORATE — This Directorate was formed at the suggestion of the Railway Accidents Committee. The strength of the staff has been as follows:-

	51-52	56-57	61-62	Dec., 1967
Director	-	-	-	1
Jt. Director	-	-	-	1
Dy. Directors	-	-	1	2
Asstt. Director	-	-	-	-
Sr. Scientific Officer	-	-	-	-
Jr. Scientific Officers	-	-	-	2

This directorate also deals with coaching work which, however, is not substantial. One Deputy Director from this section may be reduced after the Wanchoo Committee has finished its investigations. Meanwhile, there is likely to be additional work in this Directorate.

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35. THE SECRETARY'S BRANCH —

	51-52	56-57	61-62	Dec.'67
Secretary (Director's Grade)	1	1	1	1
Jt. Director	-	-	-	1
Dy. Director	1	2	1	1
Asstt. Directors	1	2	4	2

The future composition of this branch will depend, to a large degree, on the extent to which our recommendations regarding the reorientation of the functions of the Railway Board is implemented. Its responsibilities will be further enhanced if the officer-oriented pattern of working is introduced.

36. It is suggested that the record room and the typing section should be placed under the charge of officers of the status of Assistant Directors, who should sit with them and see that the work is promptly executed and delays avoided.

37. Regarding Security, Vigilance and Public Relations Directorates detailed comments have been made separately in Chapters XII, XIII and XV respectively.

38. The proposals regarding officers'strength made in the above paragraphs, are summarised in annexure II/4. It will be seen from the above that the suggested strength of officers in the Board's office will be:-

Directors	..14
Jt. Directors	..26
Dy. Directors	..25
Asstt. Directors	..16
Misc. Officers	..13
Total*	..94

(*Excludes Vigilance, Security, Stores, & Statistics Directorates

39. The total strength of Class III staff in 1956-57 excluding Stenographers was 836 and that of the Stenographers was 153. At the end of 1967, the strength had gone upto 1281 and 178 respectively. This represents an increase of 53% and 17% respectively. In respect of Class IV staff comprising record sorters, daftries, messengers, peons, etc., the total strength in 1956-57 was 389 which has now gone upto 485 and this represents a substantial increase.

If the suggestions for the higher type of policy making and technical work being undertaken at the Board's level are implemented and the mode of working in the Railway Board is changed to the officer-oriented pattern and finally if the protocol of non-interference in the day to day working of railways is observed, it must result in a substantial curtailment of the Class III staff and the strength of this category may even be well below the 1956-57 figures. An economy of 33 to 40 per cent on the present strength is quite conceivable. As regards the Class IV staff the matter needs looking into very carefully and the future strength should be determined after a close scrutiny and a detailed job analysis. Substantial reduction in the strength of Class IV is definitely called for.

ANNEXURE II/3

(Vide para 1 of Annexure II/2)

Statement showing the staff strength (gazetted and non-gazetted) in the Railway Board's office since 31-3-1957

Years	Members	Addl: Members	Directors	Joint Directors	Deputy Directors	Assistant Directors	Section Officers	Class III	Class IV
31.3.1957	5	5	12	22	31	14	103	1,008	389
31.3.1958	5	5	13	22	35	18	117	1,093	432
31.3.1959	5	5	17	21	36	18	118	1,099	434
31.3.1960	5	5	17	23	37	19	128	1,132	426
31.3.1961	5	5	18	26	40	22	122	1,112	421
31.3.1962	5	5	17	30	43	28	116	1,218	445
31.3.1963	5	5	19	34	48	31	122	1,289	495
31.3.1964	5	5	20	35	54	31	121	1,314	504
31.3.1965	5	6	20	38	60	31	118	1,346	515
31.3.1966	5	6	20	42	67	31	119	1,404	524
31.3.1967	5	6	19	44	63	31	123	1,423	492
31.3.1968	5	7	19	42	66	23	110	1,460	485

Directorate	Strength as in 1956-57						Strength as on 31-12-19					
	D	JD	DD	AD	M	Total	D	JD	DD	AD	M	Total
Civil Engineering.	1	2	2	-	"1	6	1	5	4	1	-	11
Establishment	1	1	3	5	2	12	1	2	6	6	-	15
Finance & Accounts	2	6	3	1	3	15	2	5	6	2	3	18
Statistical	**1	-	1	3	-	5	1	1	2	2	1	7
Efficiency Bureau	-	1	2	-	1	4	-	1	3	-	-	4
Traffic Transportation	2	1	4	1	1	9	1	3	3	1	1	9
Safety	-	-	-	-	-	-	1	1	2	-	2	6
Signal & Telecom.	-	-	3	-	1	4	1	2	4	3	-	10
Traffic Comml.	1	2	4	1	-	8	-	3	4	3	-	10
Mechanical Engineering	2	5	1	1	-	9	1	3	1	2	1	8
Mechanical Production	-	1	-	-	-	1	1	1	3	-	-	5
Wagon Production	-	-	-	-	-	-	1	3	9	2	3	18
Electrical Engineering	-	-	1	-	1	2	1	1	1	-	-	3
Stores	1	-	3	-	-	4	1	3	3	-	2	9
Planning	1	1	1	-	-	3	1	1	2	-	1	5
Health	-	1	-	-	-	1	1	-	1	-	-	2
Secretary's Branch	1	-	2	2	-	5	1	1	1	2	-	5
Economic Cell	-	-	-	-	-	-	1	1	-	-	4	6
Vigilance							-	2	6	1	1	10
Railroad Co-ordination						....						
Security & Public Relations						....						

"Timber Adviser.
*This includes Joint Director(Timber).
**Economic Adviser.
%Two experts in lieu of three Deputy Directors.
@This includes Joint Director and Deputy Directo

67	Suggested strength						No. of posts reduced					
	D	JD	DD	AD	M	Total	D	JD	DD	AD	M	Total
	1	*3	2	1	-	7	-	2	2	-	-	4
	1	2	6	6	-	15	-	-	-	-	-	-
	2	5	3	2	3	15	-	-	3	-	-	3
	To be reviewed by Railway Board.						-	-	-	-	-	-
	1	-	-	-	%2	3	-	-	1	-	-	1
	1	2	2	1	1	7@	-	1	1	-	-	2
	1	1	1	-	2	5	-	-	1	-	-	1
	1	1	-	-	-	2	-	1	4	3	-	8
	-	3	3	3	-	9	-	-	1	-	-	1
	1	3	1	2	1	8	-	-	-	-	-	-
	1	1	3	-	-	5	-	-	-	-	-	-
	***						***					
	1	-	1	-	-	2	-	1	-	-	-	1
	To be reviewed by the Railway Board.											
	1	1	1	-	-	3	-	-	1	-	1	2
	-	-	1	-	-	1	1	-	-	-	-	1
	1	1	1	2	-	5	-	-	-	-	-	-
	1	1	-	-	4	6	-	-	-	-	-	-
							Being dealt with in separate chapters.					

..................................Since abolished

....Being dealt with in a separate chapter.

Abbreviations

r (Coal).
completed its

'D' stands for Directors
'JD' stands for Joint Directors/
Deputy Secretary

ANNEXURE - III/S
(Vide para 3.16)

1. (1) Eastern Railway

(a) The continuance of a Civil Defence Officer seems unnecessary. Civil defence plans of the railways having been finalised, the post should only be operated in an emergency and the sanction should be revised accordingly.

(b) The Senior Executive Engineer/Plant Depot/Moghalsarai should be posted at Moghalsarai. There is no point in posting him in the Head office.

(c) Senior Executive Engineer/Project and Assistant Executive Engineer/Planning do not seem necessary as permanent sanctions. The sanctions may be reviewed.

(d) A number of officers have been posted temporarily to look after track improvement namely

Engineer-in-Chief (Track)
Senior Executive Engineer (Track High Speed)
Senior Executive Engineer(Track Improvement)

The Railway Board should review these requirements.

(e) There is also a Senior Executive Engineer (Planning). It is difficult to understand why planning on this Railway now warrants the retention of a whole-time Executive Engineer.

(f) There are a number of Assistant Officers in the Commercial side dealing with rates namely -

Assistant Commercial Officer/Special Rates.
Assistant Commercial Officer/Rates.
Assistant Commercial Officer/Rates General.
Assistant Commercial Officer/Rates General(I).
Assistant Commercial Officer/Rates General(II).

Now that rates have been mostly standardized, this strength seems excessive and should be reviewed.

(g) The Mechanical Department at present has the following officers -

..2/-

CME -	... 1
DCME/Running Loco	... 1
DCME/Works	1
DCME/C&W	... 1
Senior Scale PA/CME	... 1
SME(Fuel)	... 1
SME(Maintenance)	... 1
SME(Operation)	... 1
SME(Planning and Project)	1
SME(Head Quarters)	... 1
SME(C&W)	... 1
Junior Scale A.M.E.(Fuel)	... 1
A.M.E (C&W)	... 1
A.M.E.(R)	... 1
A.M.E.(C&W)Box.	... 1

(h) Senior Mechanical Engineer(Fuel) should be upgraded to the post of a Deputy Chief Mechanical Engineer (Fuel).

Senior Mechanical Engineer/Planning & Project and the Senior Mechanical Engineer/Headquarters in the Mechanical Engineering side should be shifted from the Headquarters as Fuel Officers, one should be incharge of fuel consumption on the Howrah, Sealdah and Asansol Divisions and another for the Dhanbad and Dinapore Divisions.

Assistant Officers should be posted at the oil depots other than those inside loco sheds for supply of diesel oil to engines. One of them could be the Assistant Fuel officer at the Headquarters.

(i) Under the Chief Accounts Officer, there is a post of Accounts Officer/Efficiency. It is difficult to understand what efficiency measures he is capable of introducing with his experience. The necessity for this post may be reviewed.

(j) Under the Controller of Stores there are following temporary posts -

Dy.COS/BI.
SSOP/BI.
SSOP/Dock.
SSOP/Rail Dump.
SSOP/Box Wagon.
SSOP/B&R.
ACOS/BI
ACOS/Steel.

Besides the above, there are permanent sanctions for two Deputy Chiefs, 5 Senior Scale and 7 Junior Scale posts.

The organisation seems over staffed. In para 28 of annexure, II/2, we have indicated a number of stores posts in Calcutta under the Wagon Production Directorate. The Railway Board should make a comprehensive review and readjust the strengths.

(2) South Eastern Railway

a) General: Here too there is a Civil Defence Officer and the same remarks as in the case of the Eastern Railway apply.

b) Signalling & Tele-communication: In the Signalling & Telecommunications Department, there are 4 posts in the junior scale as against 3 on the Eastern Railway. The strength may be reviewed.

c) Mechanical: The existing strength of officers in the Mechanical Department is as follows:-

C.M.E.	...1
Dy. C.M.E.	...3
Sr. Scale S.M.Es.	...6
Jr. Scale A.M.E(Fuel)	...1

(i) The post of Fuel officer may be upgraded to that of a Deputy Chief.

(ii) Divisional Mechanical Engineer/HQ and Divisional Mechanical Engineer/P&P should be posted in charge of fuel, oil and lubricants consumption on engines, one at Kharagpur to look after the Kharagpur and Waltair Divisions and another at Bilaspur to look after the Bilaspur, Adra and the Narrow Gauge Divisions. Chakradharpur Division has been practically electrified.

(iii) Same action is recommended for oil fuelling as on the Eastern Railway.

d) Transportation: The necessity for a separate post of T.S.(Steel) at the Headquarters may be reviewed considering that there is a separate Deputy Chief Operating Superintendent/Goods. Divisional Superintendents should be able to look after the day-to-day work.

e) Commercial: There are 9 Assistant Officers in the Claims side. The strength seems excessive and the General Manager should review the requirement.

(3) Northern Railway

a) Commercial: There are 14 Assistant Officers for handling claims and refunds. The number seems excessive and the General Manager should review the strength.

b) Transportation: The post of Assistant Operating Superintendent(Planning) seems unnecessary. An Assistant Officer cannot be of much use for planning. A Deputy Chief Operating Superintendent (Planning) is already available to look after this work.

c) Mechanical Engineering: The existing strength of officers in the Mechanical Engineering Department is as follows -

C.M.E.	..	1
Dy. C.M.E.	..	4
Sr. Scale	..	7
Jr. Scale	..	7

i) The post of Divisional Mechanical Engineer (Fuel) should be upgraded to that of a Deputy Chief.

ii) Works Manager(G) and Senior Mechanical Engineer(Progress & Planning) should be transferred from the Headquarters to function as Fuel Officers. One more senior scale officer's post should be created so that these three officers may be posted outside the headquarters to the Divisions to look after the fuel consumption work on the Divisions. The work may be suitably divided amongst them.

iii) There are 7 Assistant Officers, one under each senior scale officer, which is not the pattern elsewhere. Out of these Assistant Officers it should be possible to provide those required for manning the diesel oil supply depots.

d) Stores: The necessity for temporary posts of Assistant Controller of Stores (Planning) and Assistant Controller of Stores(Special) should be reviewed.

e) Civil Engineering: The justification for temporary posts of -

.... X.E.N.Planning,

X.E.N. Planning,
X.E.N. (Track Modernisation),
X.E.N. (Track Improvement), and
A.E.N. (Design),

should be reviewed. However, planning work on this railway is likely to be extensive and the post for planning may have to be retained.

(4) Western Railway

a) Commercial: 2 Senior Scale Claims Officers have 13 Assistant Officers to look after. This is a wrong distribution. We suggest that the conversion of two of the posts of Assistant Officers into one senior scale should be considered.

b) Mechanical: The existing strength of officers in this Department is -

C.M.E.	.. 1
Dy. C.M.E.	.. 4
Sr. Scale	.. 5
Jr. Scale	.. 5

The post of fuel officer should be upgraded to that of a Deputy Chief Mechanical Engineer. A senior Mechanical Engineer(Diesels) at the Headquarters does not seem justified. The Deputy Chief Mechanical Engineer(RL) should be able to look after the normal running problems of diesel engines and the Deputy Chief Mechanical Engineer(Maintenance) likewise should do so in the case of maintenance. Problems of stores supply should be dealt with by the Stores Department. Two additional senior scale posts should be created and including the Divisional Mechanical Engineer (Diesels), these three officers should be decentralised to the Divisions to look after fuel consumption as suggested in the case of other railways. Only the Assistant Officer Fuel among the Assistants in the Headquarters can be spared to look after one of the diesel oil supply depots and additional posts of Assistant Officers as required will have to be created for other depots.

c) Civil Engineering: The department seems somewhat over-staffed. A separate extensive organisation for Survey & Construction already exists. The necessity for the posts of Project Engineer, Assistant Project Engineer and Assistant Engineer (Special) should be reviewed.

5) Central Railway

a) General: The temporary post of Deputy General Manager (General) does not seem to be necessary. Its jurisdiction has since been shortened. We visualise larger delegation of powers to the Principal Officers and other Heads of Departments and an intervening layer between the General Manager and these departmental heads could, therefore, be thinned out,

b) Mechanical Engineering:- The existing strength of officers in the Mechanical Engineering Department is as follows:

C.M.E.	...	1
Dy. C.M.E.	..	3
Sr. Scale	...	6
Jr. Scale	...	4

The post of Senior Mechanical Engineer(F) should be upgraded to that of a Deputy Chief. Two senior scale posts from the headquarters should be decentralised to the Divisions to function as Fuel Officers on the Divisions. Besides the Bombay Division, which is electrified, the work on the rest of the Railway should be divided between these two. Additional posts of Assistant Officers should be created to take charge of diesel oil supply depots other than those located in sheds.

6) Southern Railway

a) General: The temporary post of Deputy General Manager (General) should be surrendered. The post of Assistant Deputy General Manager (Works) under the General Manager also seems unnecessary.

b) Personnel: The temporary post of Officer on Sepcial Duty/Discipline Enquiries is not required. Consistant with the reduced staff strength and jurisdiction of this railway, 4 senior scale posts seem adequate.

c) Mechanical Engineering: The existing strength of officers in the Mechanical Engineering Department is as follows:

C.M.E.	..	1
Dy. C.M.E.	..	3
Sr. Scale	..	7
Jr. Scale	..	3

The post of Senior Mechanical Engineer(Fuel) should be upgraded to that of a Deputy Chief Mechanical Engineer. Senior Mechanical Engineer (Diesels) and Senior Mechanical Engineer (General) might be posted to the Divisions as Fuel Officers, one to look after the broad gauge and another for the metre gauge section. Necessary posts of junior scale officers should be created for the diesel oil depots.

d) Stores: It is presumed that the two temporary senior scale posts for which sanction was given upto 31-3-68 have been surrendered.

7) South Central Railway

a) General: The temporary post of Deputy General Manager (General) should be surrendered.

b) Civil Engineering: There is a substantial difference in the Civil Engineering work on this railway compared with the Southern, Central and Eastern Railways, where four Deputy Chief Engineers have been provided. Bearing this in mind, we consider that the work should be divided among three Deputy Chief Engineers and one post should be surrendered. The combined strength of permanent and temporary senior scale posts also seems excessive and the position should be reviewed. The total number of senior scale and junior scale posts is 13 and 14 respectively, out of which 5 senior scale and 6 junior scale are work charged.

c) Commercial: Two posts of Deputy Chief Commercial Superintendents and one of Marketing Superintendent have been shown in the statement. Considering its size and nature of work, the Deputy Chief Commercial Superintendent (Rates & Development) should be able to look after marketing work also.

d) Operating: Here again almost the same pattern of strength of officers has been provided as on bigger railways for which there is no justification. The post of Senior Transportation Officer(Planning) should be abolished. Deputy Chief Operating Superintendent (Goods) should, in addition to his duties, look after Planning. Likewise, we think that the Transportation Superintendent(Safety) and Deputy Chief Operating Superintendent(Coaching) may be merged, as has been done in the Railway Board.

On this railway, since it is a smaller unit, the Deputy Chief Mechanical Engineer (Loco & Running) should be able to look after fuel problems at the headquarters. The Senior Mechanical Engineer (Fuel) and Senior Mechanical Engineer(P&F) Headquarters should be posted to the Divisions to look after fuel consumption work on the Divisions. One of them may be posted at Vijayawada to look after Vijayawada Division and the broad gauge section of the Secunderabad Division and another should be posted at Secunderabad to look after the remaining area. The General Manager should provide Assistant Officers from the strength at the Headquarters to man the diesel oil depots as suggested in other cases.

e) Finance & Accounts: Three posts of Deputy Chiefs are excessive for this Railway; only two should do, one to look after the Finance and the other to look after the Traffic Accounts and General Branch. Three Assistant Officers for Traffic Accounts also seem excessive. Southern Railway has shown only one. The strength should, therefore, be reviewed.

f) Divisional Jurisdiction: The Secunderabad Division is much too big. A Deputy Divisional Superintendent has already been posted, but we do not consider it a satisfactory arrangement unless there is a clear-cut division of responsibilities, which alone can give the necessary relief. It should be divided into two but the headquarters of both should remain at Secunderabad, which is conveniently located. As indicated above, we find that the zonal headquarters has excessive staff while this important Operating Centre has not been given the required relief. The bifurcation should be on the basis of broad gauge section being placed under a Senior Grade Divisional

Superintendent and the metre gauge section under a Junior Grade Divisional Superintendent. In the present division, there are already two Senior Scale Operating Officers. An additional Senior Scale Commercial Officer and a Senior Scale Personnel Officer will be needed for the new division. Signalling, Electrical and Accounts work may remain combined, but the officers concerned will be responsible to the respective Divisional Superintendents. Clerical staff need not be increased but should be readjusted. Despatch section etc. should remain common.

(8) North Eastern; and
(9) Northeast Frontier Railways:

(a) General: These Railways have been working on the District pattern, which was retained for various considerations other than operational. We strongly advocate the institution of a regular divisional system of working on these railways as amplified later on in paras 19 to 22. The cost of establishing the offices should be faced but we consider that it should be possible to work within the present strength of office staff in the districts. In fact, there may be some saving. At present, all the coordination work is done at the headquarters which are over-staffed. While these Railways have been consistently losing and are smaller than the other zonal railways, the pattern of organisation is almost comparabl with the major Railways. It is suggest the Headquarters' strength should be reviewed in full regard to the adjustment in work which should arise with Divisionalisation.

b) Transportation & Commercial Departments: The North Eastern Railway has five junior administrative posts, one of which is temporary, 7 senior scale and 19 junior scale posts in the Transportation and Commercial Departments. The Northeast Frontier Railway has 6 junior administrative posts out of which 4 are temporary, 5 senior scale and 15 junior scale posts.

In our view the pattern of these Railways should be:

	North Eastern	Northeast Frontier
Operating		
C.O.P.S.	1	1
Dy. C.O.P.S.	1	1
Safety Officer Sr. Scale	1	1
Sr.Scale (Goods)	1	1
Sr. Scale (Coaching)	1	1
Junior Scale	2	2
Commercial		
C.C.S.	1	1
Dy. C.C.S.(Goods)	1	1 (Dy. CCS(Genl).
Dy.CCS(Marketing & Sales).	1	Nil
Sr.Scale(Marketing & Sales)	Nil	1
Sr.Scale (Claims)	1	1

.....Sr.Scale

Sr.Scale (Refunds & General)	1	1
Jr.Scale	9	7

The N.F.Railway might have only 7 junior scale posts under Commercial.

c) Medical: In our view, the post of a Chief Medical Officer on these Railways purely for supervisory work seems unwarranted. It is suggested that they should also devote part of their time on specific medical work.

d) The reductions suggested for consideration in other departments consequent on Divisionalisation are tabulated in Annexure III/6.

2. In dealing with the details of the set up of these two Railways, we would also like to bring to the notice of the Railway Board that some redistribution of the jurisdictions of these two Railways appears to be necessary. There are two alternatives which have to be considered and carefully examined in the light of the operational needs:

(i) The section between Katihar and Barauni may be transferred to the Northeast Frontier Railway The transhipment work at Garharra near Barauni, will, however, remain under the North Eastern Railway;

or (ii) Katihar inclusive of Jogbani and branches may be transferred to the North Eastern Railway.

We have no special preference for either of these re-arrangements although in the ultimate analysis alternative (ii) may be more suitable.

3. The full divisional scheme operates in all the Zonal Railways except the North Eastern and the Northeast Frontier Railways, which are still working on the district pattern.

4. In the district system, the officers of the various departments control their respective districts and in some cases the jurisdictions of the various district officers are not even coteterminus. All co-ordination between the various district officers has to be done at the headquarters level, which leads to correspondence and delay.

5 On the other hand, in the regular divisional scheme, all the officers are stationed at the divisional headquarters except for the assistant engineers incharge of sub-divisions, and for an occasional transportation officer posted in-charge of a control office, if located outside the headquarters, or for an Area Officer-in-charge being posted at an important commercial centre. Co-ordination of all the activities within the Division is effectively done under the Divisional Superintendent, who is an experienced and a specially selected officer.

6. In view of the big advantage to be gained, more specially due to their strategic locations and the sudden burden that may fall upon them in emergencies which may arise without warning or notice,

we strongly advocate that the district pattern on the North Eastern and Northeast Frontier Railways should be changed to the full divisional pattern as early as practicable. In determining the number of divisions and the divisional headquarters, due regard should be paid to the expected growth of traffic on these two railways and the heavy workload that may develop on some of the sections in emergencies. Frequent changes in jurisdictions or bifurcation of divisions should be avoided by careful forethought.

7, In para 2, we have given an indication of the necessity for the redistribution of the jurisdictions of the North Eaatern and Northeast Frontier Railways. Obviously the details of the proposals for introducing the divisionalisation on these two zones should be worked out after a decision has been taken in this matter.

PROPOSED ST

CADRE POSITION IN HEADQUARTERS OFFICE

AS ON 1 - 3 - 1968

DEPARTMENTS	EXISTING STRENGTH ON NORTH EASTERN RAILWAY								
	J.A.			S.S.			JS/Cl.II		
	P	T	W	P	T	W	P	T	W
Administration	-	1	-	4	5	-	4	-	-
Personnel	1	-	-	5	1	-	7	-	-
Accounts	2	-	-	6	-	-	13	-	-
Engineering	3	-	-	7	2	6	6	2	4
Signalling	-	-	1	2	-	2	1	-	-
Electrical	-	-	-	2	-	1	2	-	-
Transportation & Commercial	4	1	-	5	2	-	17	2	-
Mechanical	2	-	-	4	1	-	2	-	-
Medical	-	-	-	2	1	-	-	1	-
Security	1	-	-	-	-	-	4	1	-
Stores	1	-	-	3	-	-	4	-	-

DEPARTMENTS	EXISTING STRENGTH OF NORTHEAST FRONTIER RAILWAY								
	J.A.			S.S.			JS/Cl.II		
	P	T	W	P	T	W	P	T	W
Administration	-	1	-	4	5	-	2	-	-
Personnel	1	-	-	3	3	-	5	-	-
Accounts	1	-	-	4	1	1	11	2	-
Engineering	8	-	-	5	2	-	5	2	-
Signalling	-	-	1	2	-	1	2	-	1
Electrical	-	-	-	2	1	-	1	1	-
Transportation & Commercial	2	4	-	5	-	-	15	-	-
Mechanical	2	1	-	4	-	-	3	-	-
Medical	-	-	-	1	1	-	2	-	-

ATEMENT

S OF NORTH EASTERN AND NORTHEAST FRONTIER RAILWAYS

PROPOSED STRENGTH ON NORTH EASTERN RAILWAY

J.A.			S.S.			JS/Cl.II.		
P	T	W	P	T	W	P	T	W
-	1	-	4	5	-	2	-	-
1	-	-	3	-	-	3	-	-
2	-	-	4	-	-	10	-	-
3	-	-	4	-	6	3	-	4
-	-	1	2	1	2	1	-	-
-	-	-	2	-	1	2	-	-
3	-	-	5	-	-	11	-	-
2	-	-	2	-	-	2	-	-
-	-	-	2	1	-	-	1	-
1	-	-	-	-	-	4	1	-
1	-	-	2	-	-	3	-	-

PROPOSED STRENGTH OF NORTHEAST FRONTIER RAILWAY

J.A.			S.S.			JS/Cl.II		
P	T	W	P	T	W	P	T	W
-	1	-	4	5	-	2	-	-
1	-	-	2	-	-	3	-	-
1	-	-	4	-	1	11	2	-
3	-	-	4	-	-	5	2	-
-	-	1	2	-	1	1	-	1
-	-	-	2	1	-	1	1	-
2	-	-	6	-	-	9	-	-
2	1	-	2	-	-	2	-	-

APPENDIX V/7
(Vide para 5.21(c)

Visit of a group of the Study Team on Railways of the Administrative Reforms Commission to Pathardih & Dugda Washeries on 24.11.1967

...

Since detention to wagons at the Coal Washeries were heavy, a group of the Study Team on Railways visited two of the Hindustan Steel Washeries, namely, Pathardih and Dugda.

2. Pathardih Washery This Washery receives raw coking coal with high ash content from 26 different collieries which are served from the Pathardih Depot. This involves considerable shunting work at Pathardih Marshalling Yard, because coal wagons are received at all times of the day from different pilot sections. It was suggested to the Divisional Supdt., Dhanbad to examine how far rationalisation of these supplies was practicable by introducing nominated loading for this Washery from specified collieries and restricting loading on a single pilot in a section where two or more pilots operate with a view to reducing the number of collieries from which coal was received on any one day for this washery and thereby minimising the shunting work.

3. The Washery receiving lines form part of the Sorting grid of the Pathardih Marshalling Yard, into which incoming loaded wagons with coal are detached when they are sorted. These wagons are then pushed on to the wagon tipplers, of which there are two one fit to handle open 4-wheelers and another covered 4-wheelers. The percentage of covered 4-wheelers being very small, bulk of them are tippled by the open wagon tippler. After tippling, coal falls into

bins from which it is carried by means of belt conveyors to the washery, after blending, if needed, or taken direct.

4. These tipplers are operated only for 16 hours during the day and in the remaining time their maintenance is attended to. If tipplers get out of order, manual unloading is arranged, for which extensive facilities have been provided, but is an extremely slow process and whenever this has to be done, wagon detentions get aggravated. Occasional failure of tipplers was reported, indicating bad maintenance despite 8 hours regular shut down. Representative of the Hindustan Steel who was present was requested to look into this. It was also suggested that they may examine the possibility of converting the covered wagon tippler for tippling open wagons as well. If this could be done, the maintenance hours of the two tipplers could be staggered so that the tippling operation could be carried out throughout the day. Restricting this work to 16 hours inevitably leads to hold up of wagons. Tippling work is also stopped whenever there is a mechanical failure elsewhere, leading to the stoppage of the washery operation and in consequence wagons are detained. Here again the necessity of proper maintenance of mechanical equipment is indicated.

5. Washed coal from the washery is carried by conveyour belt overhead bunkers. Coaking coal and middlings are separated. The latter are normally despatched to the Durgapur Thermal Station. But as Durgapur also has a Washery, it is only when the local supply is inadequate, despatches are arranged from Patherdih Washery. When the middling bunkers get filled up washery operation is stopped. Eitherway

.....middlings

middlings are removed and dumped involving loading and unloading of wagons and re-loaded when they are despatched. All this is a fairly expensive process. The formation of middlings at the washery should be linked with their despatch to some Thermal Plant. We were told that recently arrangements had been made to supply the middlings to the Bandel Power House. In respect of washed coal, there are two series of bunkers and each one can discharge coal into ten bogie wagons simultaneously. Due to a mis-calculation, the openings of these bunkers have been incorrectly positioned in relation to the size of a bogie wagon; in consequence some of the bunkers, when discharging coal, throw it out into the gap between two wagons and, therefore, simultaneous operation of all the bunkers, which can be arranged, is not done. Wagons, therefore, have to be constantly adjusted under the bunkers and are manually operated which greatly slows down the loading operation and involves shunting, for which a yard pilot is utilized on account of which other movement operations suffer. This is an unfortunate problem due to the initial mistake, but it should be rectified. The position of bunkers, cannot be changed, but certain arrangements which we have suggested should enable simmultaneous discharge from the bunkers into the wagons. 10 bogie wagons may be positioned under these bunkers as closely as possible to the openings of the bunkers and then markings may be made on the rails so that every placement by the shunting engine may be exactly in the same position. Bunkers which do not discharge washed coal exactly into the wagon should be provided with a funnelling

......arrangment

arrangement fixed to the bunker so that the coal coming out may be funnelled straight into the wagon underneath. Space is available for fixing such funnels as an attachment to the respective bunker concerned.

6. The next problem arises in connection with the weighment and adjustment of loads of over-loaded/under-loaded wagons. For this purpose a weighbridge and a special bunker, from which additional coal can be discharged, has been positioned some distance away from the main series of loading bunkers. This involves a fresh movement and further delay. The Washery authorities stated that while in the main loading they can reasonably regulate under - loading or over-loading to the extent of 2 tons, which is permissible, but as in the case of under-loading they are required to pay for the capacity lost, they naturally try to make it up. A practical view should be taken and under-loading or over-loading to the extent of 2 tons should be permitted so as to greatly minimise the problem of adjusting over-loads which would then be restricted to only those wagons which have been over-loaded in excess of 2 tons. In fact, in a case of this nature, charges should be regulated on the basis of the standard weight for the whole rake, which would avoid considerable accounting problem etc. This will also avoid detention to wagons and considerable shunting and delay might be eliminated.

7. In this connection the Washery Superintendent also pointed out that they were allowed certain rebates in respect of installation of their own weighbridge, and in respect of double movement of coal. These rebates should also be incorporated in the freight and a differential freight quoted for them so

that further accounts adjustment checks, submission of bills for rebate etc. may all be eliminated, which obviously involves considerable unnecessary clerical work.

8. The Divisional Superintendent, Dhanbad, is fully alive to the problems which have been discussed above and other minor ones which arise in the day to day working, but the co-operation from the Washery authorities had been lacking. He informed us that since the return of the Dy. Superintendent. Washeries, who had been away on a foreign study tour, full co-operation was available and he hoped that these difficulties will now soon be got over. In fact, he pointed out that the detentions had already been substantially reduced and he expected that further improvement will materialise when some of the suggestions indicated have been implemented.

9. Another problem, which occasionally arises is in connection with the despatch of washed coal to the Durgapur Steel Plant, which, on account of practical difficulties, sometimes stops despatches and arrangements then have to be made to despatch it to Rourkela or Bhilai. Facilities, however, from this washery have been arranged for movement in the down direction. When such a move is made, wagons with washed coal have to be transferred to the S.E. Railway transfer lines by fairly awkward cross-movement, affecting the whole yard operation. We examined the feasibility of movement through, what is known as the ADIH link, taking off from Bora Chak, which is a movement in the down direction, but we were informed that this link, which is about 2½ miles long, is not electrified and being on a heavy gradient of 1-in-60 cannot be negotiated conveniently by steam locomoties, In any case, engine changing

problem is a ticklish one and therefore in a contingency, such as we have explained, there is no option except to move by a longer route via Gomoh. In any case, this is a problem which should normally arise only occasionally and should be tackled in the exigencies according to the circumstances prevailing.

10. Dugda Washery Here again, the nature of operation is similar to that of the Pathardihi washery. It has been equipped with two 4-wheeler open wagon tipplers. Covered wagons are unloaded manually. The quota of coal received is of two different varieties and, therefore, each tippler is used for the respective variety of coal, which is blended in suitable proportions before washing. Here again, the tippling operation is stopped for 8 hours. It has been suggested to the Washery authorities to stagger these hours of maintenance so that the tippling operation may continue throughout the day and they have agreed to examine it. Here the incoming coal is received from fewer collieries; only 25 wagons daily are received from the S.E. Railway. It is, therefore, possible to move these wagons in a closed circle and Railway authorities must endeavour to ensure the entire supply in open wagons only so that the problem of manual unloading may be eliminated. In fact, the same should be attemptedin the case of Pathardih Washery as well. For the despatch of the washed coal which moves to Rourkela or Bhilai, bogie open wagon trains are received from the S.E. Railway. The bunker openings, here again, have the same problem as in the case of Pathardih, namely, they have not been positioned exactly to conform to the size of the bogie

wagons. The solution suggested, therefore, is exactly the same as in the case of Pathardih.

11. For load adjustment, however, where under-load has to be made good after weighment, the weighbridge has been conveniently positioned along side the loading bunkers and load adjustment is, therefore, a comparatively easier matter. It would however, be advantageous to allow them the same facility as has been proposed for the Pathardih Washery in respect of 2 ton over-loading or under-loading and invoicing etc. which should cover element of rebate.

12. A second washery is in the course of completion along side the first one. This has been equipped with two tipplers for bogie wagons or two 4-wheelers. The arrangement here is to wash an inferior grade of coal and, therefore, any adjustment of coal supply as between the two washeries is not practicable. However, since there will be two tipplers simultaneously operating, it would be advisable to stagger their maintenance hours so that the operation may be continued throughout the day.

13. Various problems of operation were then discussed with the Divisional Superintendent Dhanbad. One of the major problems concerning them is the question of high incidence of damages among new bogie wagons (BOX). This is of the order of 7.5%. These damages largely consist of:-

(a) cracks in the sole bar,
(b) breakage of the shackles,
(c) cracks in the manufacturers weld, and
(d) breakage of springs.

We were informed that the incidence of breakage of springs had since been largely controlled, but the other damages continue. Railway Board have issued instructions that welding repairs should not be executed when a wagon is under load and, therefore, such wagons are detatched, unloaded and the repairs done in the sick lines which inevitably leads to considerable detention and handling. Elsewhere, however, we found that these repairs continue to be done when wagons are under load without unsatisfactory results. It is obvious that to the extent it is physically possible and technically feasible such repairs should be done without having to undergo the lengthy process explained above.

Statement showing the implemen
Accidents Committee 1962 regar
...

Item No.	Name of Signalling Equipment	Number in existence prior to 1962-63 i.e. before RAC's recommendations.	1962-
		1	2
83(i)	Block sections provided with token instruments on single line.	3292	154
83(ii)	Block sections provided with lock & block instruments on double line	1117	21
83(iii)	Rudimentary Interlocking (No. of stations)	520	167
83(iv)	Multiple Aspect Upper Quadrant Signalling (No. of stations).	439	50
84(i)	Track circuiting of reception lines at stations.	155	10
84(ii)	Multiple Aspect Colour light signalling	Not readily available	20
84(iii)	Automatic Signalling	420.77	40
84(iv)	Route Relay Interlocking/ Panel Interlocking.	7	2
85.	Automatic Train Control.	Nil	Worl Gay
"	Interlocking of non-interlocked stations.	4228	67
"	Raising standard of interlocking.	Not applicable.	86
(a)	Expenditure on pure signalling works (in crores of rupees)		Rs.
(b)	Expenditure on signalling portion of combined works (in crores of rupees)		Rs.

ANNEXURE VIII/C.
(Vide para 8.01)

tation of recommendations of Railway
ing provision of improved signalling.

-63	1963-64	1964-65	1965-66	1966-67	Total of Col.2 to 6.	Existing on 31-3-67 (Col.1 & 7)
	3	4	5	6	7	8
	236	336	284	216	1226	4518
	31	153	171	53	429	1546
	115	76	40	20	418	938
	99	103	100	29	381	820
	13	13	34	192	262 (stations)	417 (stations)
	24	50	99	56	249 (stations)	Not readily available
.88	30	49.60	128.77	103.98	353.23	774 (Track Kms.)
	3	1	3	9	18	25 (stations)

k is in progress on Sealdah-Burdwan (101 Kms) and
-Moghalsarai Sections of Eastern Railway(203 Kms).

	77	98	172	77	491	4719
	124	97	62	46	415 (stations)	Not applicable
4.10	Rs.5.63	Rs.6.99	Rs.7.73	Rs.7.54	Rs.31.99	
6.22	Rs.5.02	Rs.6.54	Rs.8.03	Rs.5.27	Rs.31.19	

ANNEX [illegible]
(vide para 9.04)

Recommendations that have not been accepted

Part of the Report	Item No.	Subject in brief	Railway Board's comments
I	30(ii)	Surprise tests of observance of signals.	A procedure whereby conflicting signals are devised on purpose with the object of testing drivers in their alertness will involve interference with interlocking gear at interlocked stations which will not be in the larger interest of efficiency and safety of operation. Even as regards the non-interlocked stations, such a procedure involves interference with certain locking gadgets which are generally kept sealed and locked. Furthermore, on sections with non-interlocked stations, density of traffic is relatively less, and speeds of trains slow and the devising of tests of alertness on such sections, at the cost of interfering in the normal operations, may not serve any useful purpose.
	35	Publication of brief reports of Statutory enquiries into accidents.	The Ministry of Law to whom the matter was referred for advice, had expressed themselves against publication of the report since such a course in the eventof prosecutions having been launched or likely to be launched against the staff involved in accidents, might result in public discussion of matters likely to be adjudicated by the courts thus prejudicing a fair trial of the accused. In view thereof, this recommendation is not accepted.

I	47	Certain percentage of posts in Cl.III and IV should be filled in by direct recruitment of the sons of Railways employees.	The recommendation of the Railway Accidents Committee for reservation of certain percentage of vacancies for sons of railwaymen was considered with all its implications. While such reservation of vacancies would be conducive to improvement in the morale as well as the efficiency of staff, the suggestion can be adopted only by amending the Constitution of India, which perhaps would not be possible. Accordingly, the recommendation has not been accepted.
	48	Opening of polytechnics and schools for the sons of Railway employees.	On account of difficulty in giving preference to children of railway employees in the matter of recruitment, the setting up of such schools and polytechnics will not help. There are already vocational training centres on the Railways for imparting vocational training to children of Railway employees and such training schools would continue to be developed on the Railways.
II	50	General Managers be empowered to fill in 25% of the vacancies from amongst the sons of Railway employees.	The recommendation of the Railway Accidents Committee for reservation of certain percentage of vacancies for sons of railwaymen was considered with all its implications. While such reservation of vacancies would be conducive to improvement in the morale as well as the efficiency of staff, the suggestion can be adopted only by amending the Constitution of India which perhaps would not be possible. Accordingly, the recommendation has not been accepted.

II	57(iv)	Restoration of the percentage of direct recruits in the category of Assistant Block and Signal Superintendents to 66.6.	At present direct recruitment from the open market to the extent of 40 per cent of vacancies to the categories of Assistant Signal Inspectors and Assistant Block Inspectors is already provided for. In addition, 40 per cent vacancies in these categories are filled by promotion of directly recruited Signal and Block Maintainers, On the basis of seniority-cum-suitability only the remaining 20 per cent vacancies are thus filled in by promotion from lower ranks In view of this no change in the existing percentage of direct recruitment rules needs to be called for.
	57(vi)	Increase in the quota of direct recruits as Traffic Apprentices.	The quota of direct recruitment of Traffic Apprentices from 20 to 25 per cent has been recently increased. Instructions have also been issued that the Traffic Apprentices recruited against 25 per cent vacancies should, on successful completion of their apprenticeship of 3 years, be given straight-way the scale of Rs.250-280 instead of being first absorbed in the scale of Rs.205-280. In view of this, and having regard to the interests of serving employees, no change in the existing percentage of 25 is considered necessary.

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II	62	Senior Supervisors should not be permitted to become members of the staff unions.	This recommendation has been examined in consultation with the Ministry of Law but in view of the opinion tendered it will not be possible to amend the Trade Union Act, to exclude Senior Supervisors from becoming members of the Trade Unions.
	65	Adoption of abbreviated procedure for the imposition of penalty of reduction in rank or grade.	An abbreviation of the disciplinary procedure for imposing the penalty of reduction in rank or grade will necessitate an amendment to the Constitution. In view of the Supreme Court's recent judgment holding the relevant rule in the Indian Railway Establishment Code regarding the termination of service of permanent Railway employees as ultra vires of the Constitution, the question of permitting General Managers and Heads of Departments to terminate the services of staff responsible for causing accidents does not arise.
	75	Introduction of the Divisional Organisation on Northeastern and Northeast Frontier Railways.	This matter was examined in detail not very long ago and it was found that, compared to other Metre gauge systems on Indian Railways, the conditions on the North Eastern and Northeast Frontier Railways did not justify, at present, a change-over to the Divisional organisation. The position will, however, be reviewed

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II		and a change over from the District to the Divisional pattern will be considered as and when this is called for.
125(v)	To give closer examination all the journals running hot should be stamped with a Star.	Unlike carriages and wagons for which records cannot be kept of individual trip defects, detailed up-to-date records are kept of locomotive defects after inspection at the end of every trip. It is, therefore, not considered necessary to stamp the loco axles when they run hot. Journals running hot are however closely examined in shops and sheds.
128(iv)	Manufacture of non-ferrous items in a small Foundry attached to the big loco sheds were justified.	Setting up of non-ferrous foundries attached to big loco sheds is not considered desirable as the requisite quality control cannot be maintained at such levels.
132(iv)	Preliminary trial of Engines.	Accepted except item (iv). It is the normal practice to have independent trials by special 'Trial Drivers', who are not under the control of the Workshops. More than one trial is also done where necessary, before the engine is turned out of the shops. It would, therefore, be not necessary to conduct preliminary shop trials with a driver attached to the shops.
146	Setting up Central Workshop for manufacturing essential parts.	With the introduction and good progress of incentive scheme and the creation of additional capacity for manufacture of spare parts in Railway Workshops and with the increased capacity available with the private industry the position in respect of supply of

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			spare parts has improved and will progressively improve further. Besides, with the progressive change in mode of traction from steam locomotives to diesel and electric locomotives and the changes in the types of rolling stock in use of Indian Railways, the pattern of requirements of spare parts as well as the activities in certain workshops, will change, necessitating a reorientation of the future planning of work load in the existing workshops. In view of this it would not be advisable to set up at this stage a Central Workshop on the lines suggested by the Committee.
II	150	Creation of two separate Research Directorates.	The need for strengthening the Research Organisation in respect of all branches is appreciated. Having regard to this as also keeping in view the need for close coordination among all branches and for better use of equipment, it would not be advisable to split the Research Directorate into two separate wings. Accordingly, while maintaining the coordinating Director for research as at present, the existing organisation is being strengthened by creating additional posts of Joint Directors where necessary.
	170	Research Organisation should also undertake research into various operations.	The Committee refer to Time & Works study which deals with operations in the field and on the bench and are best handled by the Railway Administrations themselves and the Research Organisation should not be burdened with this work.

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II	182	M.T. should be responsible for the working of Efficiency Bureau.	One of the principal functions of the Efficiency Bureau is to make independent studies and assessment of the efficiency of different sectors of railway operation so as to assist the Board in ensuring that the maximum outturn is obtained and that the economic benefits are maximised. As the financial and economic aspects come under the purview of the Financial Commissioner and he is not himself directly concerned with executive aspects of operation, the existing arrangement is considered more advantageous.
	206	Presence of Members of public at the enquiries into accidents.	It is felt that, while the officers of the Railway Safety Commission are free to take evidence from any person, having knowledge of any aspect of a railway accident, there is no need for making the investigation, into the cause of an accident open to members of the public generally or for inviting the Railway Unions to give information. The investigation is of a technical nature which is unlikely to be of any interest to the public and the points of which are not likely generally to be appreciated by them.
	207	Statutory provision that evidence tendered as a witness at the enquiry held by the Railway Inspectorate will not be admissible in the law courts.	This recommendation has been examined in consultation with the Ministry of Law who are of the view that the evidence of witnesses at the enquiry held by the officers of the Railway Safety Commission, is not taken on oath and is,

II		therefore, not treated as evidence under the Indian Evidence Act. There is thus no need to make a statutory provision, as suggested by the Committee.
212	Publication of brief reports for all accidents enquired into.	A similar recommendation made in Part I of the Report of the Railway Accidents Committee was referred to the Ministry of Law who considered that it would not be advisable to publish such a report in advance of a possible prosecution as it might embarass the Government in prosecuting the case, apart from creating prejudice against the persons held responsible.
213	Railway Board, the competent authority to certify the fitness of new types of Loco and Rolling Stock.	This was examined with all its implications and it is felt that the existing practice would be more conducive to having a double check on new locomotives and rolling stock, before placing them on the line, and on the movement of over-dimensional consignments. Status quo is, therefore, preferred.
216	Working of Railway Inspectorate under the Railway Minister.	While technical functioning of the Railway Inspectorate will be better promoted by its working under the Railway Ministry, this arrangement is not likely to create complete confidence in the public mind about independence of the Railway Inspectorate and its findings into the causes of serious train accidents. Accordingly it has been decided that the Railway Inspectorate should continue to function under the Ministry of Civil Aviation so that its findings may inspire complete public confidence.

Recommendations that are still under examination

II	166	Post graduate courses in Railway Engineering in Universities and Technical Institutions.
	205	Technical Wing in the Commission of Railway Safety.

ANNEX [illegible]
(vide para [illegible])

Memorandum re "Brown"
System of Discipline.

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1. With the object of securing maximum efficiency from employees with the minimum amount of hardship, the "Brown" system of discipline was placed in effect on Western Lines on February 1st, 1908, after having been adopted on Eastern Lines on January 1st of that year.

2. It is a method of assessing discipline by recording of demerit marks rather than by suspensions or fines. It also provides for the recognition of any exceptional service rendered by crediting the employee's record with merit marks.

3. This discipline record, (which is kept on the reverse side of a large staff card) is maintained on the basis of a ledger account. On the debit side appear the demerit marks and on the credit side such merit marks as may be awarded.

4. Under this system, while an employee continues to be subject to dismissal for certain offences, (such as insubordination, drunkenness on or off duty, the use of intoxicating liquor while on duty, frequenting places of low repute, incompetency, dishonesty, failing to carry out train orders or rules respecting train movements)— demerit marks are placed against his record for lesser offences, and a net accumulation of 60 demerit marks automatically indicates dismissal.

5. For each repetition of an offence, regardless of the lapse of time, or the employee's record, the number of demerit marks should be doubled. (This provision is sometimes waived where, in the judgement of the supervisory officer, it is politic to do so).

6. The "Brown" system provides an opportunity for the employee to work off any demerit marks he may accumulate by cancelling 20 demerit marks for each twelve consecutive months' service free from discipline. If the number of demerit marks outstanding is less than 20, only such lesser number, of course, are cancelled. If more than 20 demerit marks are outstanding after a period of one year free from discipline merit marks from the credit side of the account may be used to the number available and required to clear the account. Merit marks would not be used unless there were more than the 20 demerit

marks outstanding. If merit marks are used to clear or help to clear a record, they cannot again be used for such a purpose.

7 Should an employee accumulate 60 demerit marks, but have a number of merit marks to his credit this saves him from dismissal for the time being.

8. Soon after this system was put into effect, it was found necessary, for the sake of uniformity, to issue a list showing the number of merit or demerit marks for each particular service or offence. A copy of the list revised to date is attached.

SCHEDULE OF DEMERIT MARKS TO BE PLACED ON EMPLOYEES' RECORDS FOR COMMON BREACHES OF DISCIPLINE

Offence	Number of demerit marks
Disregard of yard limit rules	60
Failure to send out flagman when train stopped running	60
Carrying passengers on engine without proper authority	30
Reckless running and failure to use conductor's valve	15
Using track jacks between rails without proper protection	10
Neglect to keep frogs and switches in proper order but not unsafe	10
Rough handling of passenger trains	10
Failure to set brakes or block wheels of cars on siding	10
Failure to whistle for station	10
Violation of rule 210 - checking orders repeated by other operators; failore to sign order	10
Dumping fire when not necessary	10
Subjecting himself or other employees to risk of personal injury	10
Exceeding authorized speed(slow orders) and special rule "K"	10
Leaving car foul of lead, delaying trains	10
Smoking on duty (violation rule "H")	10
Failure to promptly change out ties or rails which are worn out or broken; delaying trains through poor handling of this work; failure to protect	10
Failure to make brake tests, as per regulations	10
Subjecting Company to garnishee proceedings	5
Failure to carry timetables and rule books	5
Not responding promptly to call for duty	5
Careless handling of cars on road, or in yard	5
Habitually delaying correspondence	5
Neglecting to mark up bulletin board	5
Failure to keep switches clear of snow	5
Standing on wrong side of track at switch	5
Failure to observe Rule 2-A, watch inspection comparison, station svce	5
Failure to wire form 1409 promptly	5
Carelessness in connection with perishable contents	5
Careless checking, delaying cars	5
Failure to properly inspect cars at terminals	5
Having station in untidy shape	5
Improper use of hand cars	5

Offence	Number of demerit marks
Failure to provide track walker with proper equipment	5
Failure to obscure headlight on engines when waiting on siding	5
Absence from office avoidable when train passes	5
Not booking engine repairs correctly	5
Failure to cut off engine when taking water	5
Failure of operators to observe rule 91	5
Running over open switches	5
Not reporting for duty on time	5
Failure to call out names of stations	5
Neglecting to promptly report personal injury to self	5
Not leaving proper address for call boy	5
Failure to use flange oiler in prescribed territory	5
Overcarrying shipment	5
# Issuing unstamped tickets	5
Carelessness in making repairs to engine and cars	5
Failure to test steam heat in cars; drain pipes; leaving heating systems in unsafe condition	5
Failure to set out car at destination	3
# Failure to carry watch inspection card	3
Failure to present watch for inspection	3
Neglecting to mark up clock rating card	3
Delaying foreign cars	2
Failure to have engine bell ringing when proceeding over crossing	2
# Error in billing	2
Failure to seal car doors	2
Loading shipment in wrong car	2
Allowing empty car to go as load	2
Failure to report switch or signal lamp not burning	2
# Failure to punch time clock	2
Failure to transmit promptly any telegraph reports; also not giving full information in such reports	2
Delaying weekly report of earnings, etc.	2

No. to be doubled for subsequent offence.

MERIT MARKS WHICH MAY BE AWARDED FOR MOST COMMON CASES

• • • •

Assisting to extinguish fire-equipment or premises.	5
Assisting repair disabled equipment so that it may be worked to terminal.	5
Bringing disabled equipment into terminal.	5
Discovering cracked wheel under car in train.	3
Discovering broken arch bar under car in train.	3
Discovering broken flanges on wheel.	3
Detecting wrong stencilling on car.	3
Discovering broken rail.	3
Assisting to clear obstruction from track(rocks trees, slide, etc.).	3
Temporary repairs to telegraph wires.	3
Delivering telegrams after regular hours.	3
Making temporary repairs to car leaking grain.	3
Turning in cutlery, money or other valuables found on Company's premises.	2

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ANNEXURE X/11
(Vide Para 10.9)

List of equipment required by the Research Designs and Standards Organisation.

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Sl.No.	Description of equipment
1.	Track recording-cum-research car.
2.	Pulsator with hydraulic jack, test bench etc. for fatigue testing.
3.	Universal testing machine(large capacity).
4.	Equipment required for soil mechanics laboratory such as triaxial equipment with pore water pressure device, vane shear apparatus, direct shear apparatus etc.
5.	Field test car BG for soil testing equipment.
6.	Field test car MG for soil testing equipment.
7.	Automatic triaxial shear equipment with pore water pressure device electronically controlled.
8.	Triaxial equipment with pore water pressure device.
9.	Direct shear equipment with XY recorders.
10	Miscellaneous such as unconfined testing equipment with XY recorder etc.
11.	Haulage device for impact test ramp.
12.	Equipment required to develop measuring wheel and other telemetric devices.
13.	Oscillograph trace assessor.
14.	New oscillograph car (2 formations comprising of 3 vehicles).
15.	Additional requirement of oscillograph car channels.
16.	Ampex tape recorder with provision for multiplexing the tracks.
17.	Multi-channel intercom. equipment for use during field trials.
18.	Additional equipment such as data acquisition and data processing including telemetric devices.

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ANNEXURE - XI/12
(Vide para 11.03)

Coverage and supply position of programme indents placed by the Western Railway on the Directorate General of Supplies and Disposals, New Delhi is indicated below for the years ending 31.3.1965, 31.3.1966 and 31.3.1967.

	No. of items indented.	No. of items supplied	
		By required delivery date.	After the required delivery date.
PROGRAMME INDENTS:			
1.4.64 - 31.3.65	531	123	269
1.4.65 - 31.3.66	494	162	167
1.4.66 - 31.3.67	338	68	118

ANNEXURE - XI/13
(Vide para 11.03)

Coverage and supply position of other indents placed by the Western Railway on the Directorate General of Supplies and Disposals, New Delhi is indicated below for the years ending 31.3.1965, 31.3.1966 and 31.3.1967.

OTHER INDENTS	Description of Indents.	No. of items indented	No. of items supplied
1.4.64 - 31.3.65	a) Maintenance (other than Programme Indents).	661	217
	b) Works Programme Indents.	319	94
1.4.65 - 31.3.66	a) Maintenance (other tnanProgramme Indents)	434	311
	b) Works Programme Indents.	384	198
1.4.66 - 31.3.67	a) Maintenance (other tnanProgrammeIndents)	357	192
	b) Works Programme Indents.	75	39

ANNEXURE - XIII/14
(vide para 13.06)

Statement showing complaints received and disposed of - Years 1960 - 1964

	1960		1961		1962		1963		1964	
	G	NG	G	NG	G	NG	G	NG	G	NG
ber pend- g at the d of last ar.	147	1828	103	1576	142	1651	124	1536	160	1735
	(1975)		(1679)		(1793)		(1660)		(1895)	
mber rece- ved during e year.	176	5538	335	6486	245	6836	426	8339	676	9093
	(5714)		(6821)		(7081)		(8765)		(9769)	
tal	323	7366	438	8062	387	8487	550	9875	836	10828
	(7689)		(8500)		(8874)		(10425)		(11664)	
mber in ich action s comple- ed.	74	3187	296	6411	263	6951	390	8140	626	8738
	(3261)		(6707)		(7214)		(8530)		(9364)	
mber dro- ped with- t enquiry.	9	1053	106	1585	79	1936	155	2531	266	2418
	(1062)		(1691)		(2015)		(2686)		(2684)	
mber dro- ped after quiry.	132	2993	144	3433	142	3687	194	3676	250	4355
	(3125)		(3577)		(3829)		(3870)		(4605)	
ber taken for depa- mental ion.	44	817	39	1157	32	960	23	887	24	1014
	(861)		(1196)		(992)		(910)		(1038)	
ber put in the rt.	-	16	1	3	-	-	-	-	-	-
	(16)		(4)		(-)		(-)		(-)	
ber ref- red to /State ce/other on.	20	364	6	233	10	368	18	1046	86	951
	(384)		(239)		(378)		(1064)		(1037)	
ber pend- at the of the .	106	2013	142	1651	124	1536	160	1735	210	2090
	(2119)		(1793)		(1660)		(1895)		(2300)	

Note:- Figures in brackets indicate total.

Punishments....

Punishments - Details of vigilance cases disposed of - years 1960 - 64

	1960		1961		1962		1963		1964	
	G	NG	G	NG	G	NG	G	NG	G	NG
Dismissal	-	42	-	38	-	23	-	26	1	17
Removal	-	162	1	129	-	86	2	82	-	9
Compulsory retirement	-	6	1	3	1	1	-	2	1	2
Reduction	1	95	1	64	1	55	2	87	-	64
Recovery from pay	-	15	-	22	-	32	-	39	-	21
Withholding of increment/ promotion.	1	439	2	431	5	452	3	490	5	435
Censure	3	129	4	101	3	113	3	155	1	88
Allowed to retire on reduced pension.	-	-	-	-	-	-	-	-	-	1
Referred to S.P.E.	1	20	1	38	-	44	-	42	5	64
Other action	12	184	46	971	56	1174	39	1007	41	1043

Statement showing disposal & pendency of complaints against Gazetted Officers

1. Brought forward from previous year.	285	261*
2. Received during the year.	417	451
3. Total	702	712
4. Number dropped without enquiry.	161	168
5. Number dropped after enquiry.	94**	186**
6. Number sent to CVC for advice.	241	391

Sl.No.7 .....

	1965-66	1966-67
7. No. of officers against whom CVC advised penalty proceedings—Major.	8	39
8. No. of officers against whom CVC advised penalty proceedings—Minor.	8	27
9. Number of officers against whom CVC advised administrative action.	8	4
10. Number of officers against whom CVC advised no action/ exoneration.	150	324
11. Dismissal.	-	-
12. Removal.	-	-
13. Compulsory retirement.	-	-
14. Reduction.	-	-
15. Withholding of increments/promotions.	2	-
16. Recovery from pay.	-	1
17. Retirement on reduced pension.	-	-
18. Censure.	2	6
19. No. of complaints pending at the end of the year.	226 (complaints)	291

Note:- ** Sl. No.5 reflects figures(marked with asterisks) of those cases which are either.

(a) dropped after enquiry with reference to to C.V.C.; or

(b) where (in some cases only) C.V.C.'s concurrence was obtained before dropping the case.

(2) The B/f figure at Sl.No.1 of 1966-67 does not tally with the pending figure of 1965-66 at Sl.No.19, for the reason that the definitions of Vigilance "Complaints" & "Cases" were recast and hence Sl.No.1 reflects 'cases' and not 'Complaints' as at Sl.No.19.

Statement.....

Statement showing the disposal and pendency of complaints against non-Gazetted Railway Staff

	1965-66	1966-67
Number of complaints B/f from previous year.	2456	2193
Number of complaints received during the year.	8763	9174
Total	11269	11367
Number of complaints pending at the end of the year.	2057	2565
Number of complaints dealt with during the year.	9162	8802
Number dropped without investigation.	2475	3098
Number dropped after investigation.	2786	3817
Number of cases initiated during the year.	3630	1983
Number of vigilance cases B/f.	1685	1565
Total number of vigilance cases to be dealt with during the year.	5315	3548
Number of vigilance cases that were completed during the year.	3445	2002

PENALTY STATISTICS

Number referred to C.B.I.	73	432
Number of vigilance cases pending at the end of the year.	1870	1546
Dismissal	36	25
Removal	101	128
Compulsory retirement.	4	2
Reduction.	117	97
Withholding of increments or promotions.	574	796
Recovery from pay.	33	33
Retirement on reduced pension.	-	4
Censure	136	208
Other action (inc.exoneration, warning [illegible]	2371	70[illegible]

ANNEXURE XIV/13
(Vide para 14.07)

PERFORMANCE BUDGETING

Railways have a variety of assets which have to be maintained in an efficient condition. Engines, coaches, wagons, track, buildings, bridges, signalling equipment etc. are some of them. Each of them again has its own distinct groups having different costs of maintenance e.g. the cost of maintenance of a steam engine is different from that of a diesel or electric engine. There are, therefore, numerous varients for which separate costing data has to be worked out.

2. Likewise in the operational sphere the performance is expressed in a variety of statistical data and the cost of accomplishing each item differs from that of others. Expenditure, however, to a substantial extent is joint and not readily apportionable to each item of maintenance and operational performance. The problem of apportionment of joint costs, for purposes of performance budgeting, therefore, is a basic issue.

3. In the past attempts have been made to do so; and while it is recognised that meticulous apportionment is not practicable, empirical methods have been devised for it. These methods may be reviewed and perfected, but pending this, the data already available may be adopted with such adjustments as may be considered necessary to start with.

4. Further a substantial proportion of the total revenue expenditure is practically independent of the output. The costs derived from the independent element are known as the

.....independent

independent costs and those derived from the balance of the expenditure, attributable to individual items of performance are known as the dependent costs. The bulk of the joint costs, however, constitute the independent element.

5. The heads of accounts attributable to the independent element should be isolated from others and an endeavour should be made to avoid further increases. In fact a gradual tightening of expenditure under this head should be made from year to year on the basis of analytical examination, comparative study of results on different railways and application of scientific or ad hoc methods as may be found justified in different cases. The approach, however, should be realistic and the anticipated results should be reasonably attainable. It is suggested that a committee of Directors in the Railway Board might determine for the sake of uniformity which heads of accounts should be allocated to independent costs. In respect of dependent costs various norms are already available for different Railways. These should be quickly reviewed by the Efficiency Bureau of the Railway Board with a view to ensuring that on all the Railways these norms are based on uniform costing data. A number of such studies have already been made and some uniformity in costing has been brought about. Even so, in certain cases costs widely differ on different Railways. The causes for these differences should be carefully studied and by continuous endeavour a measure of comparability with the least cost unit should be brought about. Here again a gradual tightening of these norms should be done by a realistic assessment on the basis of continuous analysis and cost studies. Budgetary allocations should be made on the basis of norms thus evolved

... .by

by progressive studies and the performance should be judged in relation to these norms. It would be necessary to allocate responsibilities at different levels of administration and to hold the authorities concerned accountable for the results. Periodical reviews should be made on this basis, both in the General Manager's office in sufficient detail and on a comparatively broad basis in the Railway Board at least once in three months and reasons for variations against the norms should be critically examined. The attention of the authorities should be focussed on the weaknesses in management thus discovered. Financial consciousness should be progressively awakened on business principles.

6. To elucidate further how this may be done an indication is given :

7. Unit costs of maintenance in a number of cases are already available. The independent cost element in these should be separated and the dependent element which varies in relation to the output should be the determining factor in judging the performance of the executives at the various levels concerned.

8. The independent costs are largely controllable by the authorities at the higher levels namely the Railway Board and the General Managers and they should be held responsible for keeping them down.

9. Unit costs of running repairs are also available of which the dependent element should be regulated in accordance with the output.

10. In the operational sphere, the fundamental units of output are passenger miles and freight ton miles.

.... On

11. On the basis of cost considerations passenger miles have numerous variants. The cost of different classes of travel varies widely. Likewise the cost of travel by suburban trains, sectional passenger trains and long distance mail or express trains also varies. To determine the cost of all these variants is a different matter. For purposes of performance budgeting, it should suffice if the train mile dependent costs are determined under the following heads.-

(i) Suburban train miles
(ii) Sectional passenger train miles
(iii) Mail & Express train miles

12. In special cases, if there is a wide variation in costs further sub-divisions may be made but broadly speaking this should suffice for different gauges on each Railway.

13. The dependent cost of suburban train miles should be comparatively an easier matter to determine as their operation is regulated by separate rolling stock and running staff. In the other cases sampling techniques should be adopted taking the cost elements from train documents and other available records. A clear cut directive should be issued by the Railway Board on this subject so that each Railway Administration may depute special staff to collect and collate the requisite data which are indicated by the Railway Board.

14. Likewise in the case of freight ton miles, there are numerous variants. Coal and the whole gamut of merchandise traffic have their own ton mile costs, but so much detail is not necessary. If cost study of any specific item of goods

traffic is otherwise needed, it may be separately arranged.. For purposes of performance budgeting broadly the dependent costs may be determined by sampling techniques under the following heads:-

(i) Through goods trains - net ton miles
(ii) Shunting trains - "
(iii) Smalls goods trains - "
(iv) Coal pilot trains - "

15. The objective should be to differentiate between train services of which the dependent costs widely vary.

16. The anticipated output under the various heads indicated should be annually determined and the budgetary allocations should be made accordingly.

17. In respect of marshalling yards, the bulk of the cost is independent of output and the data worthy of close check are the shunting engine hours used in relation to the number of wagons handled, cost of damages in the course of shunting per wagon handled, cost of repair per wagon handled in the sick lines and the cost conversion of detention to wagons. All these data are already available.

18. The allocation of the Rolling stock to the Railways should again be based on somewhat tighter targets of operational performance and the results watched against these targets. In the past in several cases much better results were attained and unless there are convincing reasons for accepting a lower target, at least the best results already achieved on each railway should be the minimum to be aimed at.

19. In respect of coal, fuel oil and lubricants, the

allocation should be based on set targets. Our studies reveal wide disparity in the consumption levels from those which are considered reasonable. As this head of expenditure promises considerable possibilities of savings a close watch and continuous check on consumption is necessary both on physical consumption and on financial expenditure against the actual output in terms of various statistical data.

20. The inventory levels on each Railway should also be defined for the assigned output and broadly divided into:-

(a) Maintenance Stores:-
    (i) Locomotives separately from Steam, Diesel & Electric.
    (ii) Wagons
    (iii) Coaches
    (iv) Civil Engineering
    (v) Signalling & Telecommunications
(b) Capital Works
    (i) Manufacturing units
    (ii) Civil Engineering works
    (iii) Signalling & Telecom. works
(c) Miscellaneous consumable Stores:
(d) Fuel & Oil

21. Massive statistical data are already available on the Railways but their systematic and critical study, correlation of inter-connected data and an evaluation of the various operational results in financial terms are lacking. Prompt remedial measures, therefore, cannot be initiated. Performance

......budgeting

budgeting should, therefore, be designed to perfect this tool of management as quickly as possible so that the reviews are made systematically and the weaknesses discovered are promptly pin-pointed, with a view to achieving the optimum results. The introduction of this proposal need not be deferred until costing arrangements take the final shape. A start should be made fairly quickly by making the studies on the lines indicated and perfectio brought about in course of time. A systematic review and accountability themselves will bring about an improvement and enliven the financial consciousness of the authorities concerned.

Name of Line	Gauge	Length in KMs	Date of Opening	Capital cost	Amount of Profit/ loss(for the year 1965-66	
1	2	3	4	5	6	
CENTRAL RAILWAY						
1. Gwalior-Shivpuri	N.G.	119.8	2.12.1899	37,23	(+) 1,85	(+)
2. Neral-Matheran	N.G.	20	22.3.1907	3,99	(-) 1,30	(-)
EASTERN RAILWAY						
1. Barasat Hasanabad.	B.G.	52.80	9-2-1962	2,57,89	(-) 13,72	(-)
2. Rajgir-Bhuktiyarpur	B.G.	53.00	8.2.1962	2,73,85	(-) 2,51	(-)
3. Bhagalpur-Mandar-Hill.	B.G.	50.00	1.4.1954	39,38	(+) 1,31	(+)
4. Shantipur-Nabadwip-ghat.	N.G.	28.00	1899	8,60	(-) 2,56	(-)
NORTHERN RAILWAY						
1. Rohtak-Gohana	B.G.	31.88	29.12.1958	32,43	(-) 1,12	(-)
2. Barhan-Etah	B.G.	58.78	18.10.1959	127,85	(-) 12,93	(-)
3. Akbarpur-Tanda	B.G.	16.89	30.5.1961	33,88	(-) 1,07	(-)
4. Bhildi-Raniwara	M.G.	70.17	10.5.1958	159,72	(-) 4,66	(-)
5. Nawanshahar-Doaba-Rahon.	B.G.	6.98	27-5-1915	2,49	(-) 1,33	(-)
6. Pathankot-Joginder Nagar (Pathankot-Nagrota Nagrota-Joginder Nagar)	N.G.	163.99	1.12.1928 1-4-1929	2,29,05	(+) 7,83	(+)
Batala-Qadian	B.G.	19.44	20.2.1928	8,00	(-) 33	(-)
Kalka-Simla	N.G.	96	9.11.1903	2,70,74	(-) 24,32	(-)
NORTH EASTERN RAILWAY						
Mathura-Vrindaban	M.G.	13.00	26.8.1889	7,26	(-) 1,02 (1962-63)	(-) 14
Madhosing-Mirzapur Ghat Section. Ghat Chilwan sec.	M.G.	11.67	1. 3.1909 25.10.1912	8,43	(-) 1,42 (1961-62)	(-) 16
NORTHEAST FRONTIER RAILWAY						
Mariani-Jorhat-Nemati.	M.G.	32.2	12.91942	25,94	(-) 4,91	(-) 18
Utaguri-Ramshai	M.G.	9.00	11.6.1893	2,84	(-) 85	~~(-) 29.~~
Darjeeling-Himalayan	N.G.	87.48	20.1.1913	1,11,19	(-) 40,71	(-) 36.
Tezpur-Rangapara-North.	M.G.	27	--	10,62	(-) 6,54	(-) 61.

Annexure XVI/16
(Vide para 16.04)

EMUNERATIVE BRANCH LINES ON INDIAN RAILWAYS

(Rupees in thousands)

ate of pening	Capital cost	Amount of Profit/ loss(for the year 1965-66	Percentage of gain/ loss	Interest at 5.5% of capital cost.	Total loss including loss of interest (Col.6 & 8)	Percentage of loss (Col.9 over 5)
4	5	6	7	8	9	10
2.1899	37,23	(+) 1,85	(+) 4.98	2,05	(-) 20	(-) 0.54
3.1907	3,99	(-) 1,30	(-) 32.6	22	(-) 1,52 1,72	(-) 38.10
1962	2,57,89	(-) 13,72	(-) 5.32	13,99	(-) 27,71	(-) 10.74
1962	2,73,85	(-) 2,51	(-) 0.92	15.06	(-) 17,57	(-) 6.42
1954	39,38	(+) 1,31	(+) 3.3	2,20	(-) 89	(-) 2.23
1899	8,60	(-) 2,56	(-) 30.00	47	(-) 3,03 49,20	(-) 35.25
.1958	32,43	(-) 1,12	(-) 3.46	1,78	(-) 2,90	(-) 8.94
.1959	127,85	(-) 12,93	(-) 10.11	7.03	(-) 19,96	(-) 15.61
1961	33,88	(-) 1,07	(-) 3.16	1,86	(-) 2,93	(-) 8.66
1958	159,72	(-) 4,66	(-) 2.91	8,78	(-) 13,44	(-) 8.41
1915	2,49	(-) 1,33	(-) 53.40	14	(-) 1,47	(-) 59.04
928) 29)	2,29,05	(+) 7,83	(+) 3.42	12,60	(-) 4,77	(-) 2.08
928	8,00	(-) 33	(-) 4.14	44	(-) 77	(-) 9.62
903	2,70,74	(-) 24,32	(-) 8.98	14,89	(-) 39,21 85,45	(-) 14.48
889	7,26	(-) 1,02 (1962-63)	(-) 14.01	40	(-) 1,42	(-) 19.51
909 1912	8,43	(-) 1,42 (1961-62)	(-) 16.8	46	(-) 1,88 3,30	(-) 22.3
	25,94	(-) 4,91	(-) 18.1	1,43	(-) 6,34	(-) 24.40
	2,84	(-) 85		16	(-) 1,01	(-) 35.56
	1,11,19	(-) 40,71	(-) 36.6	6,11	(-) 46,82	(-) 41.00
	10,62	(-) 6,54	(-) 61.6			

1	2	3	4	5		6	
SOUTHERN RAILWAY							
1. Sagara-Talaguppa	M.G.	15.33	10-11-1940	6,32	(-)	143	
2. Nanjangud-Chamrajanagar.	M.G.	35.50	27-8-1926	12,66	(-)	446	
3. Mettupalayam-Ootacamund	M.G.	45.88	15.10.1908	95,02	(-)	26,17	
4. Shoranur-Nilambur	B.G.	66.79	15.4.1954	1,12,05	(+)	1,41	
5. Bangalore City-Bangarpet.	N.G.	156.76	---	50,48	(-)	13,59	
6. Madurai- Bodinayakanur.	M.G.	90.12	25.7.1954	89.90	(+)	67 (1963-6	
SOUTH EASTERN RAILWAYS (N.G.Section)							
1. Naupada-Gunupur	N.G.	89.60	1900 1929-31	7,50	(-)	2,16	(
2. Rupsa-Talband	N.G.	113.6	1905	24,81	(-)	3,89	(
3. Satpura-Railway	N.G.	1007.32	1903-1916 1922-1932	516,23	(-)	2,21,46	(
4. Purulia-Kotshila	N.G.	104.83	1907	90,99	(-)	5,33	(
5. Ranchi-Lohardaga	N.G.		6.10.1913				
6. Dhamtari Branch	N.G.	88.92	17.12.1900	20,90	(+)	60	(-
WESTERN RAILWAY							
1. Chhuchhapura-Tankhara	N.G.	38.00	15.3.1923	41,23	(-)	80 (1959-60)	(-
2. Kosamba-Umarpada	N.G.	61.96	1.5.1912 1.7.1929	24,49	(-)	2,60	-do-(
3. Jhagadia-Netrana	N.G.	30.56	1.3.1932	10,00	(-)	77	-do-(
4. Choranda-Motikoral	N.G.	18.51	10.11.1921	8,34	(-)	23	-do-(
5. Samni-Dahej	N.G.	39.29	1.3.1930	8,51	(-)	1,89	-do-(
6. Godhra-Lunavada.	N.G.	40.69	4.12.1913	14,21	(-)	1,41	-do-(
7. Piplad-Deugadabaria	N.G.	16.00	1.1.1929	9,91	(-)	78	-do-(
8. Joravarnagar-Sayla	N.G.	26.30	--	6,24	(-)	1,19	-do-(-
9. Champaner-Shivrajpur.	N.G.	49.14	24-1-1911	21,11	(-)	71	-do-(-
10. Dobhoi-Timba Road	N.G.	100.39	15.11.1913 1.2.1919	66,96	(-)	3,84	-do-(-

4	5		6		7	8		9		10
10-11-1940	6,32	(-)	143	(-)	22.61	35	(-)	1,78	(-)	28.16
27-8-1926	12,66	(-)	446	(-)	35.27	70	(-)	5,16	(-)	40.76
15.10.1908	95,02	(-)	26,17	(-)	27.51	522	(-)	31,39	(-)	33.03
15.4.1954	1,12,05	(+)	1,41	(+)	1.26	6,16	(-)	4,75	(-)	4.24
---	50,48	(-)	13,59	(-)	26.92	2,78	(-)	16,37	(-)	32.42
25.7.1954	89.90	(+)	67 (1963-64)	(+)	0.81	4,56	(-)	3,89 63,34	(-)	4.69
1900 } 1929-31 }	7,50	(-)	2,16	(-)	28.82	41	(-)	2,57	(-)	34.32
1905	24,81	(-)	3,89	(-)	15.69	136	(-)	5,25	(-)	21.16
1903-1916 } 1922-1932 }	516,23	(-)	2,21,46	(-)	42.90	2839	(-)	2,49,85	(-)	48.40
1907 } } 10.1913 }	90,99	(-)	5,33	(-)	5.86	5,00	(-)	10,33	(-)	11.36
.12.1900	20,90	(+)	60	(+)	2.88	1,15	(-)	55 2,68,55	(-)	2.63
.3.1923	41,23	(-)	80 (1959-60)	(-)	1.93	2,27	(-)	3,07	(-)	7.44
5.1912 } 7.1929 }	24,49	(-)	2,60	-do- (-)	10.61	1,35	(-)	3,95	(-)	16.16
3.1932	10,00	(-)	77	-do- (-)	7.70	55	(-)	1,32	(-)	13,20
.11.1921	8,34	(-)	23	-do- (-)	2.79	46	(-)	69	(-)	8.29
3.1930	8,51	(-)	1,89	-do- (-)	22.18	47	(-)	2,36	(-)	27.68
12.1913	14,21	(-)	1,41	-do- (-)	9.94	78	(-)	2,19	(-)	15.44
1.1929	9,91	(-)	78	-do- (-)	7.71	54	(-)	1,32	(-)	13.21
--	6,24	(-)	1,19	-do- (-)	19.00	34.	(-)	1,53	(-)	24.50
.1-1911	21,11	(-)	71	-do- (-)	3.36	1,16	(-)	1,87	(-)	8.86
.11.1913 } 2.1919 }	66,96	(-)	3,84	-do- (-)	5.73	3,68	(-)	7,52	(-)	11.23

Contd........./3

1	2	3	4	5	6	
WESTERN RAILWAY (Contd)						
11. Broach-Jambusar Kavi	N.G.	73.39	23-11-1914 1-8-1929	15,89	(-) 46 (1959-60)	(-)
12. Chota-Udaipur-Jambusar	"	149.66	1-12-1917	87,12	(-)11,21 -do-	(-)1
13. Ankleshwar-Rajpipla	"	62.81	1-7-1897 10-11-1917	20,15	(-) 2,37 -do-	(-)1
14. Chandod-Malsar	"	87.20	-	58,09	(-) 6,16 -do-	(-)
15. Nadiad-Pihij-Bhadran.	"	58.41	10.12.1914 15.8.1953	24,86	(-) 3,[illegible] -do-	(-)1
16. Nadiad-Kapadvanj	"	44.66	5-3-1913	16,25	(-) 1,32 -do-	(-)
17. Billimora-Waghai	"	62.77	23.7.1914 1.11.1929	24,56	(-) 1,42 -do-	(-)
18. Morvi-Ghantila	"	44.87	1904-05 1933-34	7,20	(-) 2,37 -do-	(-)3
19. Bhavnagar-Talaja-Mahouwa.	"	108.21	5.1.1926	34,67	(-) 8,04 -do-	(-)2
20. Ujjain-Agar	"	66.92	15.3.1932	11,08	(-) 1,18 -do-	(-)1
21. Morvi-Tankara	"	20.23	1894-95	3,21	(-) 1,82 (1961-62)	-(-)5
22. Kunkava-Derdi	M.G.	11.36	19-3-1940	8,17	(-) 1,26 -do-	(-)1
23. Prachi-Road-Kodinar.	"	25.57	6-4-1938	18,53	(-) 1,56 -do-	(-)
24. Talala-Delvada	"	70.84	2-4-1918	40,01	(-) 7,35 -do-	(-)
25. Hadmatia-Jodiya	"	37.88	3-10-1940	17,06	(-) 57 -do-	(-)
26. Ningala-Gandnada-Swami Narayan.	"	14.31	1-1-1929	10,62	(-) 1,27 -do-	(-)1
27. Than-Chotila	"	20.07	16.6.1926	14,35	(+) 45 -do	(+)
28. Botad-Jasdan	"	53.67	15.9.1913	28,70	(-) 3,24 -do-	(-)1
29. Fatehpur-Shekhawati-Churu	"	43.28	1-3-1957	53,74	(+) 1,87 -do-	(-)
30. Sanganer Town Toda Raisingh	"	105.57	1-1-1950 30-3-1954	1,32,60	(-) 8,02 -do-	(-)
31. Gandhidham-New Kandla	"	11,89	17-9-1956	74,75	(-) 4,32 -do-	(-)

11-1914 8-1929	15,89	(-) 46	(1959-60)	(-) 2.86	87	(-) 1,33	(-) 8.36
2-1917	87,12	(-) 11,21	-do-	(-) 12.84	4,79	(-) 16,00	(-) 18.34
-1897	20,15	(-) 2,37	-do-	(-) 11.75	1,11	(-) 3,48	(-) 17.25
11-1917 -	58,09	(-) 6,16	-do-	(-) 4.26	3,19	(-) 9,35	(-) 9.76
12.1914 8.1953	24,86	(-) [illegible]	-do-	(-) 19,63	1,37	(-) 6,25	(-) 25.13
-1913	16,25	(-) 1,32	-do-	(-) 8.12	89	(-) 2,21	(-) 13.62
7.1914 1.1929	24,56	(-) 1,42	-do-	(-) 5.79	1,35	(-) 2,77	(-) 11.29
904-05 933-34	7,20	(-) 2,37	-do-	(-) 32.90	39	(-) 2,76	(-) 38.40
.1926	34,67	(-) 8,04	-do-	(-) 23,49	1,91	(-) 9,95	(-) 28.99
8.1932	11,08	(-) 1,18	-do-	(-) 10.62	61	(-) 1,79	(-) 16.12
4-95	3,21	(-) 1,82	- (1961-62)	(-) 56.64	17	(-) 1,99	(-) 62.14
8-1940	8,17	(-) 1,26	-do-	(-) 15.43	45	(-) 1,71	(-) 20.93
-1938	18,53	(-) 1,56	-do-	(-) 8.44	1,02	(-) 2,58	(-) 13,94
-1918	40,01	(-) 7,35	-do-	(-) 8.38	2,20	(-) 9,55	(-) 23.88
0-1940	17,06	(-) 57	-do-	(-) 3.32	94	(-) 1,51	(-) 8.82
-1929	10,62	(-) 1,27	-do-	(-) 11.99	58	(-) 1,85	(-) 17.49
6.1926	14,35	(+) 45	-do	(+) 3.16	79	(-) 34	(-) 2.34
9.1913	28,70	(-) 3,24	-do-	(-) 11.27	1,58	(-) 4,82	(-) 16.77
-1957	53,74	(+) 1,87	-do-	(-) 3.48	2,96	(-) 1,09	(-) 2.02
-1950 8-1954	1,32,60	(-) 8,02	-do-	(-) 6.05	7,29	(-) 15,31	(-) 11.55
9-1956	74,75	(-) 4,32	-do-	(-) 5.78	4,11	(-) 8,43	(-) 11.28
						13,089	

Annexure XVI/17
(Vide para 16.04)

STATEMENT OF BRANCH LINES IN RESPECT OF WHICH STATE GOVERNMENTS HAVE BEEN ADDRESSED REGARDING CLOSURE

Sl. No.	Name of State	Name of Railway Zone	Details of uneconomic Branch Lines			
			Name of Section	Gauge	Loss including interest (Rs. in thousand)	Return on Capital
1.	Madras	Southern	Mettupalaiyam-Ootacamund	Metre	31,39	(-) 33.03%
2.	-do-	-do-	Mayuram-Tranquebar	"	2,11	(-) 14.1 %
3.	-do-	-do-	Nidamangalam-Mannargudi	"	1,87	(-) 31.1 %
4.	-do- (Partly in Pondicherry State)	-do-	Peralam-Karaikkal	"	1,76	(-) 14.7 %
5.	Madhya Pradesh	Central	Gwalior Shivpuri	Narrow	20	(-) 0.54%
6.	Punjab	Northern	Batala-Qadian	Broad	77	(-) 9.62%
7.	-do-	-do-	Nawashahr Doaba-Rahon	Broad	1,47	(-) 59.04%
8.	Mysore	Southern	Bangalore-Bangarapet	Narrow	16,37	(-) 32.42%
9.	Bihar	Eastern	Bhagalpur-Mandar Hill	Broad	89	(-) 2.23%
10.	Haryana	Northern	Rohtak-Gohana	Broad	2,90	(-) 8.94%
11.	Uttar Pradesh	Northern	Akbarpur-Tanda	Broad	2,93	(-) 8.66%
12.	-do-	-do-	Barhan-Etah	Broad	19,96	(-) 15.61%
13.	-do-	Northeastern	Madho Singh-Mirzapur Ghat.	Metre	1,88	(-) 22.3 %
14.	-do-	-do-	Mathura-Vrindaban	Metre	1,42	(-) 19.51%
				Total	85,92	

Financial Results of Northe

	1956-57	1957-58	1958-59	1959-60
1. Gross Traffic Receipt	54,43,82	60,65,83	60,49,95	63,11,97
2(a) Ordinary working expenses.	35,96,54	39,25,70	40,70,86	42,64,74
(b) Appropriation to DRF	7,26,75	7,16,12	6,99,45	6,99,76
(c) Appropriation to Pension Fund.	-	-	-	-
(d) Payment to worked lines				
(e) Total working expenses	43,23,29	46,41,82	47,70,31	49,64,50
3. Net traffic receipt	11,20,53	14,24,01	12,79,64	13,47,47
4. Net Miscellaneous Expenditure	2,07,42	2,14,30	1,20,72	1,92,61
5. Net Revenue (3-4)	9,13,11	12,09,71	11,58,92	11,54,86
6. Payment to General Revenue:				
(i) Dividend to General Revenues.	6,01,95	6,59,30	7,52,86	7,88,78
(ii) Payment in lieu of Passenger fare tax.				
Total	6,01,95	6,59,30	7,52,86	7,88,78
7. Profit (+) or less (-) (5-6)	3,11,16	5,50,41	4,06,06	3,66,08
8. Operating Ratio	79.4%	76.5%	78.8%	78.6%

1-
rthern Railway

Annexure XVII/18
(Vide para 17.02)

(In thousands of Rupees)

60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
97	64,34,86	71,77,61	80,89,42	92,12,65	92,05,17	102,80,10	109,12,21
,74	45,65,96	48,84,44	52,95,10	58,31,95	63,99,05	72,24,05	79,44,15
,76	6,88,23	10,07,10	9,81,74	11,46,14	11,67,91	12,13,86	13,90,82
	-	-	-	-	1,52,07	1,42,96	1,55,38
,50	52,54,19	58,91,54	62,76,84	69,78,09	77,19,03	85,80,37	94,90,35
,47	11,80,67	12,86,07	18,12,58	22,34,56	14,86,14	16,99,73	14,21,86
,61	96,09	78,74	1,12,37	1,22,41	1,28,10	1,16,49	1,23,76
,86	10,84,58	12,07,33	17,00,21	21,12,15	13,58,04	15,83,24	12,98,10
,78	7,97,33	8,89,99	9,53,89	10,98,19	12,36,15	13,63,28	17,64,83
		2,17,72	2,21,74	2,20,37	2,14,94	2,17,24	
8,78	7,97,33	11,07,71	11,75,63	13,18,56	14,51,09	15,80,52	17,64,83
66,08	2,87,25	99,62	5,24,58	7,93,59	(-)93,05	2,72	(-)4,66,73
.6%	81.7%	82.1%	77.6%	75.7%	83.9%	83.5%	87.0%

P.T.O.

Financial results of North Eastern R

			1956-57 @		1957-58 @		1958-59		1959-60	
1.		Gross traffic receipt		29,14,51		32,46,45		19,77,60		16.04,45 %	2
2.	(a)	Ordinary Working Expenses		26,82,89		31,05,80		19,21,68		20,53,26	2
	(b)	Appropriation to DRF.		4,93,79		5,24,38		2,76,98		2,70,41	
	(c)	Appropriation to Pension. Fund.		-		-		-		-	
	(d)	Payment to worked lines.		3,09		2,58		-		-	
	(e)	Total Working expenses.		31,79,77		36,32,76		21,98,66		23,23,67	
3.		Net traffic receipt.	(-)	2,65,26	(-)	3,86,31	(-)	2,21,06	(-)	7,19,22	(-)
4.		Net miscellaneous Expenditure.		92,63		76,74		62,25		86,78	
5.		Net Revenue	(-)	3,57,89	(-)	4,63,05	(-)	2,83,31	(-)	8,06,00	(-)
6.		Payment to General Revenue.									
	(i)	Dividend to General Revenues.		4,42,37		4,83,72		2,96,33		3,11,43	
	(ii)	Payment in lieu of passenger fare tax.		-		-		-		-	
		Total		4,42,37		4,83,72		2,96,33		3,11,43	
7.		Profit (+) or loss (-) (5-6)	(-)	8,00,26	(-)	9,46,77	(-)	5,79,64	(-)	11,17,43	(-
8.		Operating ratio.		109.1%		111.9%		111.2%		144.8%	

@ Includes N.F. Railway portion,

% Includes debit adjustment total

(Continuation)

Eastern Railway

(In thousands of Rs)

1959-60 %	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
,04,45	20,54,84	23,76,99	27,24,52	29,72,58	32,35,32	35,23,01	39,00,02
,53,26	21,40,52	20,95,81	22,74,96	24,04,67	26,65,56	30,57,32	33,37,56
70,41	2,64,11	3,77,48	3,43,21	3,76,25	3,68,22	3,58,05	4,03,99
-	-	-	-	-	77,31	69,14	82,07
-	-	-	-	-	-	-	-
,23,67	24,04,63	24,73,29	26,20,15	27,80,92	31,11,09	34,84,51	38,23,62
,19,22	(-) 3,49,79	(-) 96,30	1,04,37	1,91,66	1,24,23	38.50	76,40
86,78	90,14	94,10	1,06,97	95,55	96,02	1,11,90	1,03,23
,06,00	(-) 4,39,93	(-)1,90,40	(-) 2.60	96,11	28,21	(-)73,40	(-) 26,83
,11,43	3,37,34	3,54,61	3,61,85	4,02,18	4,34,20	4,67,86)	5,71,97
-	-	84,21	85,85	89,19	91,04	92,13)	
,11,43	3,37,34	4,38,82	4,47,70	4,91,37	5,25,24	5,59,99	5,71,97
,17,43	(-) 7,77,27	(-)6,29,22	(-)4,45,10	(-)3,95,26	(-)4,97,03	(-)6,33,39	(-)5,98,80
44.8%	117.0%	104.1%	96.2%	93.6%	96.2%	98.9%	98.0%

portion, which was formed separately w.e.f. 15.1.53

ent totalling Rs.3.5 crores.

P.T.O.

Financial result

	1956-57	1957-58	1958-59	1959-60	1960-61	1961-	
1) Gross Traffic Receipts.	49,98,15	52,53,41	55,03,01	58,68,59	62,82,31	68,57,	
2)(a) Ordinary working expenses.	37,60,67	44,29,35	44,37,39	46,02,62	49,75,87	50,18,	
(b) Appropriation to DRF	6,45,79	6,33,79	6,17,36	6,00,99	5,96,55	8,56,	
(c) Appropriation to Pension Fund							
(d) Payment to worked lines.	21,60	14,82	(-) 75	(-) 1,55	(-) 2,58	5,2	
(e) Total working expenses	44,28,06	50,77,96	50,54,00	50,02,06	55,69,84	58,80,1	
3) Net traffic receipt	5,70,09	1,75,45	4,49,01	6,66,53	7,12,47	9,77,17	
4. Net miscellaneous expenditure.	1,07,10	1,36,00	67,09	1,46,03	62,43	1,57,05	
5. Net revenue	4,62,99	39,45	3,81,92	5,20,50	6,50,04	8,20,12	
6. Payment to General Revenue:							
(i) Dividend to General Revenues.	5,03,93	5,97,03	6,65,32	7,09,49	7,31,52	8,28,82	
(ii) Payment in lieu of passenger fare tax.						2,11,62	
Total	5,03,93	5,97,03	6,65,32	7,09,49	7,31,52	10,40,44	
7) Profit (+) or loss (-) (5-6)	(-)40,94	(-)5,57,58	(-)2,83,40	(-) 1,88,99	(-) 81,48	(-) 2,20,32	(-
8) Operating ratio.	88.6%	96.7%	91.8%	88.6%	88.7%	85.7%	

(Continuation)

Financial results of Southern Railway

(In thousands of rup

9-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
3,59	62,82,31	68,57,28	73,39,10	81,97,48	84,05,51	94,88,75	73,02,21
,62	49,75,87	50,18,16	55,33,52	58,97,66	63,73,04	69,93,04	57,36,10
,99	5,96,55	8,56,66	8,59,11	10,15,68	10,72,68	11,24,79	9,98,35
			-	-	1,51,02	1,78,25	1,39,21
55	(-) 2,58	5,29	2,40	1,46	1,55	3,91	-
06	55,69,84	58,80,11	63,95,03	69,14,80	75,98,29	82,99,99	68,73,66
53	7,12,47	9,77,17	9,44,07	12,82,68	8,07,22	11,88,76	4,28,55
3	62,43	1,57,05	2,09,17	2,10,70	1,76,39	1,25,63	76,58
0	6,50,04	8,20,12	7,34,90	10,71,98	6,30,83	10,63,13	3,51,97
)	7,31,52	8,28,82	9,13,44	11,32,27	13,22,46	15,01,72	14,54,22
		2,11,62	1,98,50	1,95,28	1,89,96	1,94,13	
	7,31,52	10,40,44	11,11,94	13,27,55	15,12,42	16,95,85	14,54,22
	-) 81,48	(-) 2,20,32	(-) 3,77,04	(-) 2,55,57	(-) 8,81,59	(-) 6,32,72	(-) 11,02,25
	88.7%	85.7%	87.1%	84.4%	90.4%	87.5%	94.1%

P.T.O.

	1956-57	1957-58	1958-59	1959-60	1960-61	196
1. Gross traffic receipts	55,29,69	62,27,25	65,38,29	70,30,11	75,15,02	81,9
2(a) Ordinary working expenses.	32,85,84	38,59,68	41,23,13	44,73,15	48,25,44	50,9
(b) Appropriation to DRF	6,10,63	6,34,61	6,23,50	6,39,12	6,23,31	8,9
(c) Appropriation to Pension Fund.						
(d) Payment to worked lines						
(e) Total working expenses.	38,96,47	44,94,29	47,46,63	51,12,27	54,48,75	59,94
3. Net traffic receipts	16,33,22	17,32,96	17,01,76	19,17,84	20,66,27	22,01
4. Net miscellaneous expenditure.	1,58,76	2,17,08	1,53,25	1,93,84	1,37,89	1,38
5. Net revenue	14,74,46	15,15,88	16,38,51	17,24,00	19,28,38	20,63,
6. Payment to General Revenue:						
(i) Dividend to General Revenues.	5,19,57	5,93,04	6,65,44	7,39,62	7,32,86	8,27,
(ii) Payment in lieu of passenger fare tax.						2,09,
Total	5,19,57	5,93,04	6,65,44	7,39,62	7,32,86	10,36,
7. Profit (+) or loss (-) (5-6)	9,54,89	9,22,84	9,73,07	9,84,38	11,95,52	10,27,
8. Operating ratio	70.5%	72.2%	72.6%	72.7%	72.5%	73.1%

'inancial results of Western Railway

(Continuation)

(In thousands of Rup

)	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
.1	75,15,02	81,96,10	89,78,45	96,73,16	102,87,88	113,15,61	118,01,45
.5	48,25,44	50,99,02	58,15,68	60,88,99	66,02,61	71,39,92	77,42,57
.2	6,23,31	8,95,20	8,56,21	9,92,98	9,87,33	9,89,30	11,42,06
		-	-	-	1,90,78	2,13,60	2,06,90
'7	54,48,75	59,94,22	66,71,89	70,81,97	70,80,72	83,42,82	90,91,53
4	20,66,27	22,01,88	23,06,56	25,91,19	25,07,16	29,72,79	27,09,92
4	1,37,89	1,38,12	2,06,43	1,89,50	1,85,19	1,59,68	1,57,67
0	19,28,38	20,63,76	21,00,13	24,01,69	23,21,97	28,13,11	25,52,25
	7,32,86	8,27,13	8,82,75	10,41,63	11,09,94	12,36,72)	16,01,93
		2,09,46	2,08,84	2,03,99	2,03,73	2,05,93)	
	7,32,86	10,36,59	10,91,59	12,45,62	13,13,67	14,42,65	16,01,93
	11,95,52	10,27,17	10,08,54	11,56,07	10,08,30	13,70,46	9,50,32
	'2.5%	73.1%	74.3%	73.2%	75.6%	73.7%	77%

ANNEXURE XVII/19
(Vide para 17.20)

FINANCIAL ANALYSIS

Since we found that certain Railways have been persistently showing deficit, we have made sample studies of the Southern, Northern and North Eastern Railways with a view to forming an appreciation of the possible avenues of economy and their dimensions. For this purpose we have made a comparison with the trends on the Western Railway which has both Broad and Metre Gauge sections of similar character and has been regularly paying. This, however, does not imply that Western Railway results have been assumed to be ideal. Since the variation in wages and costs of materials is a common factor, the comparison takes care of it and the differing trends are indicative of comparative efficiency or inefficiency.

2. Important items of working expenses are:

a) Repairs and maintenance;

b) Operating staff; and

c) Operation (Fuel).

3. The subject of Administration as a head of working expenses, has already been touched upon separately and the scope for economy in the case of officers has been indicated against each Railway. The methodology to bring down the expenditure on staff has also been indicated.

4. Commencing from the year 1957-58, the expenditure on subordinate supervisory staff has been shifted from 'Administration' to 'Repairs and Maintenance/Operation' on the basis of the recommendations made by the Estimates

Committee in their 23rd Report on the Railway Budget 1956-57. With the formation of the South Central Railway from 2-10-67, two divisions of the undivided Southern Railway (viz., Vijayawada and Guntakal) got merged with the new Zonal Railway. While the figures of expenses of the residual Southern Railway were adjusted on a notional basis i.e., assuming the bifurcation to have taken place as from 1-4-66, the results of 1966-67 are likely to be somewhat confused. The analysis in the succeeding paras are, therefore, confined to a nine year period from 1956-57 to 1965-66.

5. Coming to the subject of repairs and maintenance, we shall first take up the maintenance of structural works. The comparative position in respect of the broad heads is as follows:-

Cost per equated Track Kilometre

	Admn. & Executive Officers.		Office Staff		Subordinate Supervising Staff		Total		Percentag variatio
	56-57	65-66	56-57	65-66	56-57	65-66	56-57	65-66	
Broad Gauge									
" S.Rly.	65.06	62.80	219.80	251.30	132.85	253.50	417.71	567.60	35.
" W.Rly.	119.55	81.01	241.23	182.97	140.62	371.60	501.40	635.58	26.
" N.Rly.	55.62	74.92	144.44	202.26	115.68	266.68	315.74	543.86	72.

6. It will be noticed that the total of the Supervisory staff on the Southern Railway has increased by about 9% more than on the Western Railway whereas on the Northern Railway the increase is 45.4% more. These substantial variations on the Southern and Northern Railways compared with the Western should be looked into. An attempt should be made to lay down the norms of expenditure, under each of the heads and their variation on the basis of changing wages and costs of materials should be closely watched from year to year. The compilation of

data should be on the same basis.

Cost per equated Track Kilometre

	Admn. & Executive Officers.		Office Staff		Subordinate Supervising staff.		Total		Percentage variation.
	56-57	65-66	56-57	65-66	56-57	65-66	56-57	65-66	
Gauge									
.Rly.	66.00	83.30	300.14	274.50	128.70	363.30	494.84	721.10	45.7%
.Rly.	46.13	81.21	121.68	247.22	116.91	353.06	284.72	681.49	139.4%
.Rly.	73.52	85.90	167.36	178.01	99.19	287.75	340.07	551.66	62.2%

In the case of metre gauge, the total cost on the Southern Railway is much higher. Why the variation on the Western Railway is so high should also be looked into. Here again norms should be laid down for purposes of comparison.

8. The trend of indices for the expenditure on track maintenance (i.e. amount booked under A.2100) per equated track kilometre is:

		1956-57	1959-59	1960-61	1961-62	1965-66
(B.G.)	S.Rly.	100	131	251.5	243.6	221.3
"	W.Rly.	100	96.6	118.8	163.6	187.2
"	N.Rly.	100	96.4	144.7	169.6	228.7
(M.G.)	S. Rly.	100	199.2	259.5	221.5	229.6
"	W. Rly.	100	147.1	159.2	164.8	210.6
"	N. Rly.	100	187.0	256.3	205.3	261.9

9. This also indicates that the build up of expenditure on the Southern and Northern Railways in both gauges has been greater than on the Western Railway. Reasons for this increase should be analysed and necessary measures taken to bring down

the costs.

10. Cost of repair per equated engine Km(Steam)

	1956-57	1959-60	1960-61	1961-62	1965-66	Percentage increase in 1965-66 over 1956-57.
Broad Gauge						
Southern Rly.						
Mech.Workshop	0.24	0.22	0.23	0.25	0.26	8.3%
Transportation workshop.	0.10	0.12	0.14	0.17	0.21	110.0%
Total:	0.34	0.34	0.37	0.42	0.47	38.2%
Western Rly.						
Mechanical workshop.	0.17	0.14	0.14	0.17	0.15	(-)11.8%
Transportation workshop.	0.14	0.16	0.19	0.21	0.28	100.0%
Total:	0.31	0.30	0.33	0.38	0.43	38.7%
Northern Rly.						
Mechanical workshop.	0.12	0.13	0.17	0.15	0.14	16.7%
Transportation workshop.	0.14	0.14	0.16	0.17	0.24	71.4%
Total:	0.26	0.27	0.33	0.32	0.38	46.2%

The increase on the Southern Railway and Western Railway in regard to repairs to steam locomotives are of the same order whereas on the Northern Railway the increase has been higher by about 8% over the Southern Railway. The increase in transportation workshop on the Southern and transportation workshop on the Northern Railway has been disproportionately high and this needs looking into. Here again norms of unit cost of repair should be determined and the compilation of data should be made on a common basis.

11. Cost of shop repairs to coaches and wagons (in terms of 4-wheelers)

	1956-57				1965-66			
	Average No. on line (daily)	Average No. under or awaiting repairs (daily)	Percentage.	Unit cost.	Average No. on line (daily)	Average No. under or awaiting repairs (daily)	Percentage	Unit cost.
RIAGES								
G)S.Rly.	2,385	128	5.4%	1739.3	3,933	242	6.2%	2746.20
W.Rly.	1,714	141	8.2%	2621.8	2,718	108	4.0%	2550.33
N.Rly.	3,856	301	7.8%	1893.1	5,903	399	6.8%	1703.28
ONS								
G)S.Rly.	14,060	294	2.1%	282.9	29,704	221	0.7%	274.60
W.Rly.	15,390	275	1.8%	272.7	23,512	484	2.1%	284.48
N.Rly.	27,030	241	0.9%	227.1	49,919	317	0.7%	182.58

It will be seen that the unit cost of shop repairs of carriages has gone up steeply on the Southern Railway whereas there has been a drop on the Western or the Northern Railways. The percentage of coaches given shop repairs to the average number on line also showed an increase on the Southern Railway, whereas on the Western and Northern Railways the position indicates declining trend. This indicates considerable scope for economy. Why there is such a marked variation in unit cost of repair between the three Railways needs looking into. Apparently material consumption is an important reason, which may be due to greater leakage on Southern and Western Railways.

12. Cost of running repairs of coaches and wagons per 1000 vehicle Kms.

COACHES

	1956-57 Running Repairs	1965-66 Running Repairs	Percentage increase
(B.G.)S.Rly.	3.63	6.53	79.89%
" W.Rly.	6.75	9.13	35.26%
" N.Rly.	4.65	8.54	83.66%

WAGONS.....

WAGONS

(B.G.)	S.Rly.	3.80	8.73	129.74%
"	W.Rly.	5.98	9.30	55.52%
"	N.Rly.	5.60	8.44	50.71%

The cost of running repairs of coaches and wagons per thousand vehicle kilometre shows a steady increase on all the three railways, but the percentage increase on the Southern Railway is greater and in the cost of wagon repairs it is even more pronounced. Unit cost of running repair of wagons also shows a sudden rise on the Southern Railway in 1965-66 as the following figures show:

	1956-57	1959-60	1960-61	1961-12	1965-66
Transportation workshop.					
Broad Gauge					
S.Rly.	63.0	128.6	107.0	158.0	195.5
Index	100.0	204.2	169.8	250.8	310.3
" W.Rly.	197.1	202.8	243.1	268.1	291.
Index	100.0	102.9	123.3	136.0	147.8
" N.Rly.	176.3	182.4	189.6	174.8	215.5
Index	100.0	103.4	107.6	99.2	122.3

13. Engine Km. per day per Goods Engine in use(Steam)

	1956-57	1959-60	1960-61	1961-62	1965-6
Broad Gauge					
S.Rly.	161	166	165	156	140
" Index	100	103.1	102.4	96.8	86.9
" W.Rly.	135	143	160	169	157
Index	100	105.9	118.5	125.1	116.3
" N.Rly.	143	159	161	153	110
Index	100	111.1	112.5	106.9	76.9

On the.....

On the Southern Railway the index has dropped in 1965-66 to 86.96 i.e. approximately 13% more engines (steam) have been utilised. On the Northern Railway there has been a steep fall of about 31.7% from the best result. These additional engines affect the Budget:

a) in additional investment involving depreciation and dividend liability;

b) in additional maintenance cost;

c) in additional running cost.

14. Wagon Km. per wagon day

		1956-57	1959-60	1960-61	1961-62	1965-66
Broad Gauge	S.Rly.	73.1	73.1	66.0	64.2	53.3
	Index	100	100	90.3	87.8	72.9
"	W.Rly.	89.5	82.1	109.3	118.8	101.3
	Index	100	91.7	122.1	132.7	113.2
"	N.Rly.	87.4	97.7	103.3	97.9	78.8
	Index	100	111.8	118.2	112.0	90.2

15. The Southern Railway has gone down by 27 points. The average number on line in 1965-66 was 29 704 wagons, i.e. 27% of these or about 6300 wagons could have been saved. Each wagon costs about Rs.18,000/- and, therefore, the additional investment amounts to about Rs.11.3 crores. Results of the Western and Northern Railways also indicate sharp deterioration.

16. Cost of Locomotive Running Staff — Cost of station staff is practically constant and the scope of economy only exists in the case of the Trains Branch or the Yard Porters and Khalasis. These categories should be reviewed. Apart from this, it is the Operating Running Staff who should

increase only in proportion to train kilometres.

17. Instead of mentioning the figures of costs, which will take lot of space, we are using the indices to draw conclusions.

Indices of Cost of Locomotive Running Staff

	1956-57	1959-60	1960-61	1961-62	1965-66
Broad Gauge S.Rly.	100	118.6	186.1	189.4	275.4
" W.Rly.	100	124.9	188.1	208.6	285.6
" N.Rly.	100	120.9	147.3	172.8	239.5
Train Kilometres (Passenger)					
S.Rly.	100	97.6	97.1	98.9	122.4
W.Rly.	100	117.7	122-8	124.5	144.5
N.Rly.	100	104.9	105.9	106.1	114.1
(Goods) S.Rly.	100	111.2	110.4	115.2	128.5
W.Rly.	100	121.4	125.3	133.8	157.1
N.Rly.	100	116.3	117.0	121.8	133.0

18. The running staff required for goods train kilometres is roughly twice that of passengers and applying this equation, we get a composite index of requirement of staff for comparing with the variation of costs.

	1956-57	1965-66
S.Rly.	100	126
W.Rly.	100	153
N.Rly.	100	127

19. This indicates that the cost of locomotive running staff index should have gone up less on the Southern Railway compared with the Western Railway by about 18%. Actually the variation is only 3% less. Roughly the cost seems 15% more than what it

would have been had the Southern Railway maintained the speeds of goods trains to the levels of Western Railway. This too is a loss which can be improved by better operation. For loco running staff alone, it amounts to about Rs. 26 lakhs on the basis of our assessment. The corresponding transportation staff may amount to about Rs.14 lakhs.

20. We next come to the question of fuel consumption. This subject has been discussed in **chapter XVII** in detail. Here we will just indicate the variations on the Southern Railway between the two years for which comparison is being made.

Coal consumption per 1000 G.T.Kms.

	1956-57		1965-66	
	P.	G.	P.	G.
Broad Gauge				
S.Rly. (K.G.)	59.8	45.6	61.5	52.3
W.Rly.	43.8	44.5	43.6	41.9
N.Rly.	49.0	41.4	57.3	56.0

21. In the case of Southern Railway (BG), we may neglect the variation under passengers, but in the case of goods it is substantial, being 15% more. Allowing for 5% variation due to the low calorific value of coal, the net increase is of the order of 10% and the loss due to it is estimated at about Rs.29 lakhs. On the Northern Railway, passenger train consumption increased by about 17% and goods by about 35%, and allowing for 5% lower calorific value the loss works out roughly to Rs. 150 lakhs.

22. North Eastern Railway — (i) Cost of general administration per equated track kilometre in 1966-67 on the North Eastern Railway was Rs.790.90 as against Rs.382.81 on the

Western Railway. This is an important item where expenditure should be saved. Roughly Rs.400/- per equated track kilometre is the amount involved. The total saving on an equated track kilometre of 6,250 would be approximately Rs.25 lakhs.

(ii) In respect of repair to rolling stock, while the maintenance costs are not basically higher, but on account of slow movement of goods traffic, both the engine and the wagon requirement is greate . In 1966-67, the wagon kilometre on North Eastern Railway was 46.6 while on Western Railway it was 84.6. Lest it may be argued that Western Railway has an appreciable diesel traction, we have looked into the figures prior to dieselisation and find that in 1962-63 the Western Railway had reached the figure of 82.1. In 1963-64 it was 78.4 and in 1964-65 it was 83.2. There is, therefore, a big difference. Western Railway also has a number of transhipment points and branch lines. Intensive effort and planning of movements should be done on the North Eastern Railway and the goods trains speeds should be improved. It is to be realised that even if 75 wagon kilometres per wagon day is treated as a norm, there is a big lee-way to be made up. It involves a saving of something like 10,000 to 12,000 wagons or an investment of 10 to 12 crores of rupees could be saved.

Likewise, in the case of engines, engine kilometres per goods engine day in use is 121 on the North Eastern Railway against 145 on the Western Railway. About 20% improvement is needed which should reduce the requirement of engines correspondingly. This again involves additional investment. 229 engines were in use on goods services in 1966-67, which means that about 45 engines may be saved and these at a capital cost of Rs.4.5 lakhs would give a saving of 2.025 crores. There is thus an additional investment of 12 to 14 crores in goods engines and wagons. The interest and depreciation on these at 8.5% works out to Rs.1crore.

(iii) Cost of maintenance on this additional rolling stock is also substantial. Rs.232.25 per wagon on 10,000 wagons gives a saving of Rs.23 lakhs. In regard to engines,approximately Rs.3 crores is spent on the North Eastern Railway on locomotive maintenance and 45 engines constitute about 4.5% of the total or about Rs.13.5 lakhs. The train staff will also be reduced. The percentage of wagons in mechanical workshops is also high.

(iv) The number of wagons owned by the North Eastern Railway is 34,015 in terms of four-wheelers, but the average in their use is 28,294 i.e. their ownership is about 5,300 wagons more than their needs and they have to bear interest, maintenance and depreciation charges on these while other railways use them.

23. Cost of operating a train Km. is the surest index of economic working and these are reproduced below:-

Cost per train kilometre(excluding interest)

	1956-57	1959-60	1960-61	1961-62	1965-66
Broad Gauge					
Cost per passenger Train Km.					
S.Rly.	6.77	7.70	8.00	8.82	10.86
Index	100	114	118	130	160
W.Rly.	6.59	6.48	7.31	7.81	9.41
Index	100	98	111	119	143
N.Rly.	5.46	6.07	6.50	7.32	9.67
Index	100	111	119	134	177

Cost per....

	1956-57	1959-60	1960-61	1961-62	1965-66
Cost per Goods Train Km.					
S.Rly.	12.50	13.50	13.20	14.20	18.07
Index	100	108	106	114	145
W.Rly.	13.20	14.10	14.10	14.70	15.44
Index	100	107	107	111	117
N.Rly.	11.70	12.40	12.60	13.80	16.62
Index	100	106	108	118	142
Metre Gauge					
Cost per passenger Train Km.					
S.Rly.	4.70	5.37	6.21	6.05	8.08
Index	100	114	132	129	172
W.Rly.	5.51	6.68	7.14	7.51	10.74
Index	100	121	130	136	195
N.Rly.	5.66	5.98	6.34	6.62	10.03
Index	100	106	112	117	177
N.E.Rly.	6.90	7.38	7.58	7.76	10.05
Index	100	107	110	112	146
Cost per Goods Train Km.					
S.Rly.	8.39	9.20	10.00	9.86	12.72
Index	100	110	119	118	152
W.Rly.	9.07	10.30	10.20	10.80	12.75
Index	100	114	112	119	141
N.Rly.	10.70	9.69	9.60	10.60	12.77
Index	100	91	90	99	119
N.E.Rly.	11.70	12.00	11.80	12.70	13.32
Index	100	103	101	109	114

It will be observed that on the broad gauge, the rate of increase in cost per train Km. both goods and passenger, was the lowest on the Western Railway. If the unit cost on the Southern and Northern Railways (Broad Gauge)had increased at the same rate as on the Western Railway, the results would have been as under:-

Railway	Cost per train Km. in 1965-66			Train Kms. in 1965-66 (000)	Estimated additional expenses in 1965-6 (in crores (Col.3x4)
	Actual	Adjusted to the rate of increase registered on W.Rly.	Variation (Col.1-2)		
	1.	2.	3.	4.	5.
		(Rupees)			
Southern					
(a) Passenger	10.86	9.68	+1.18	17,296	2.04
(b) Goods	18.07	14.63	+3.44	11,314	3.89
					5.93
Northern					
(a) Passenger	9.67	7.81	+1.86	32,530	6.05
(b) Goods	16.62	13.69	+2.93	23,169	6.79
					12.84

On the metre gauge, the increase in the cost per passenger train km. was the highest on the Western Railway - 95 per cent - as against 46 per cent on the North Eastern Railwa On the Southern and Northern Railways, the increase was 72 per cent and 77 per cent respectively. In respect of goods services, the rate of increase in the unit cost was the highest on the Southern Railway - 52 per cent as against 14 per cent on the North Eastern Railway. It will, however, be observed that the cost per train km. on the North Eastern Railway was the highest in 1956-57 in respect of both passenger and goods services; in 1965-66 though the difference b tween the cost per goods train km. on the N.E.Railway and other three Railways has been reduced, it is still the highest.

25. Financial results of these four Railways, namely, Northern North Eastern, Southern and Western Railways during each year from 1956-57 to 1965-66 are indicated in annexure.* It is seen that th Western Railway has always been running in profit. The total amou of profit earned by this Railway during 1965-66 was Rs.13.7 crores which was the highest in all the years under comparison. The Northern Railway which was running in profit till 1963-64 showed deficit during 1964-65 and partially recovered in 1965-66 by showing a nominal surplus. The best figure of profit achieved on Northern Railway was Rs.7.9 crores in 1963.64. Southern and North Eastern Railways have always been running in deficit. The amoun of loss in 1965-66 on the North Eastern Railway and Southern Railway was of the same order i.e. Rs.6.3 crores.

* Annexure XVII/18

26. We consider that an analysis of trends of expenditure on Railways should be done somewhat on these lines as a regular measure to focus attention on disproportionate increases on some Railways and improvement on others. It is only by such analytical approach that administrative weaknesses in the control of expenditure can be detected and put right. We are rather disappointed that this had not been done previously by the Railway Board.
